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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH:

TO WHICH WILL BE ADDED,
OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES
OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN,
PHILADELPHIA, AND THE NAT. HIST. SOCIETIES
OF PARIS AND MOSCOW;
PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY
JAMES SOWERBY, F.L.S.

———" VIRESQUE ACQUIRIT EUNDO."———*Virg.*

VOL. VII.

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PREFACE

TO THE

SEVENTH VOLUME

OF

ENGLISH BOTANY.

IN entering upon a Seventh Volume of this work, I embrace the opportunity of thankfully acknowledging the increasing favour with which it continues to be received by the Public in general, as well as the particular assistance it every day experiences from those friends of Mr. Sowerby and myself who enrich it by their communications. These communications are indeed so copious, that, from the limited form of the publication, we find it sometimes impossible to admit them all so early as we could wish, without neglecting more common though perhaps not less interesting or useful subjects. On this point, as well as every other relative to the choice of plants or of matter, we hope those who patronize the work will give us credit for a sincere desire to accommodate all the Students of Indigenous Botany, in their various objects, as much as possible. It is our ambition by degrees to include every vegetable production of Britain, except the *Fungi*, now publishing by Mr. Sowerby alone, in a separate work. Our original views indeed were more limited, but seven years progress has enlarged them. Such plants as were already figured in Mr. Curtis's *Flora Londinensis*, it was thought might be omitted; but to that a great number of our most intelligent purchasers objected, and we have for many reasons acceded to their opinion. It is not without concern that we have found the Editor of that truly valuable work has taken offence at this publication, as clashing with his, which was by no means our aim or desire. On the contrary, I no sooner heard of his displeasure, than I told him, "if he thought the book likely at all to interfere with the success of his *Flora*, we would confine it to such plants as were not to be found within ten miles of London," the limits he had originally prescribed to himself. His answer was, that "he should ever consider our undertaking, in any form, as in all respects hostile to his:" an answer I received with regret, having till then kept up a most friendly botanical intercourse with him; and I record it now merely that the Public may understand the real state of the case.

However averse to literary controversies, being in general I trust better employed, I must notice a German review of the third volume of English Botany, in the *Gottingische Anzeigen* for the 8*th* of April 1797: this however I should not do, especially as it comes from an anonymous hand, did I not find myself in some respects justly corrected by it. The author truly remarks, upon *Bryum rigidum*, t. 180, that what I have hitherto called the

the *flower-stalk* of mosses, ought to be named the *fruit-stalk*, as elevating the germen only. But, speaking of the genera of these plants, he says, very uncandidly, " The English have no ideas of the botanical revolutions in Germany, but go on all in the old style, ever averse to reform or improvement." It is easy to see the political allusion of this paragraph, which comes very ill from a German. I can only say, I wish Englishmen ever to be guided by reason and truth, guarded equally against corruption or sophistry at home, and maintaining the dignity of experienced teachers, rather than learners abroad. As to the point in question, the English are neither ignorant nor inattentive. I must claim the honour of having first given an account in this country of the great Hedwig's discoveries (see Dissertation on the Sexes of Plants, published in 1786, p. 60.), and have, under t. 180 above mentioned, assigned the reasons why I hesitated about adopting his generic characters, as being almost entirely artificial. More experience may alter my opinion, but hitherto it remains as it was. The German critic complains, that the stalk of *Pinguicula lusitanica*, t. 145, is not represented hairy. To this an inspection of the plate affords a sufficient answer. It is his opinion that t. 174 contains two very different species under *Lichen uncialis*; that *Pyrus Malus*, t. 179, had better be described with a *simple* rather than a *sessile* umbel; that *Salix repens*, t. 183, is the *depressa* of Hoffmann; that *Lichen immersus*, t. 193, is doubtful; and that in *Marchantia*, t. 210, the receptacle or *discus* is taken for a calyx. This last is a matter of opinion, which I do not see any reason to give up. In other respects he very liberally praises the work, and certainly honours the author by what he has said of him.

The genera of Mosses is but an unimportant point, compared with that on which I am unhappily obliged to dissent from many most respectable writers, the Reform, as it is called, of the Linnæan System. Every young beginner thinks himself a judge of systems, and, as far as they are artificial, every one may easily be so. But, in natural systems, the most experienced botanist can as yet be but a learner; and rash indeed is that hand which would make an established artificial system abundantly less natural than it was originally, without rendering it at all more easy. Linnæus could certainly have formed his system upon *number* alone, but he wisely judged *situation* and *proportion* might conveniently be taken into consideration. To his class *Polygamia* many students of tropical plants justly objected in his lifetime, and he, as well as his son, listened to their observations. For my own part I could wish all the plants of that class, as well as the *Monœcia* and *Diœcia*, to be removed to the hermaphrodite ones, except such as have a difference of structure in the different flowers; for, where that is the case, the flowers can never vary one into the other, nor the two sexes become united in one flower. By this means many most natural orders of Monœcious or Diœcious plants would still be kept by themselves, which have no affinity with any in the other classes, and only encumber them. Perhaps the order *Syngenesia Monogamia* might be properly abolished; but the other orders of of that class require to be physiologically and deeply studied, in a manner that lies out of the ken of most of these reformers. Such plants as do not properly belong to the *Gynandria* ought undoubtedly to be removed from thence; but this is no reason why others, as the *Orchideæ*, should not remain there. Above all, the union of *Icosandria* with *Polyandria* is the most preposterous and ill-judged attempt that has yet been made upon the Linnæan system. A great deal more might be said upon this subject, and I have often thrown out hints relative to it in the course of the present work. I respect and applaud every step towards a knowledge of natural arrangement, but I most heartily disapprove of every whimsical alteration, in an artificial system that has been found to answer its intended purpose. Who would not thank the writer of a dictionary for every improvement in etymology and the true meaning of words? but who would admire him for deranging the alphabet, jumbling b p and v, c g and k, or perhaps all the vowels together, to accommodate those whose intellects were not competent to count to twenty-four? The work of Dr. Withering, being a book of primary importance, has drawn from me these remarks, he having in his third edition adopted some of the above alterations. I lament the confusion that is thereby introduced, and the still greater which may follow from such an example; but I put in my protest only to be considered, not blindly followed, and I keep my own mind ever open to conviction on this and I hope every subject; for he who does not, deserves no credit for any opinions he may entertain.

It

It remains only to add, that, for brevity's sake, I shall in future quote the usual authors as follows;

Withering's third edition—*With.* ——— When the second and third volumes are referred to, citing only the page—

Hudson's Flora, second edition————*Huds.*
Relhan's Flora Cantabrigiensis————*Relh.*
Sibthorp's Flora Oxoniensis————*Sibth.*
Lightfoot's Flora Scotica————*Lightf.*

J. E. SMITH.

Norwich,
Nov. 1, 1797.

LINNÆA borealis.

Two-flowered Linnæa.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Calyx* double; that of the fruit 2-leaved; that of the flower in 5 divisions, superior. *Cor.* bell-shaped. *Berry* dry, 3-celled.

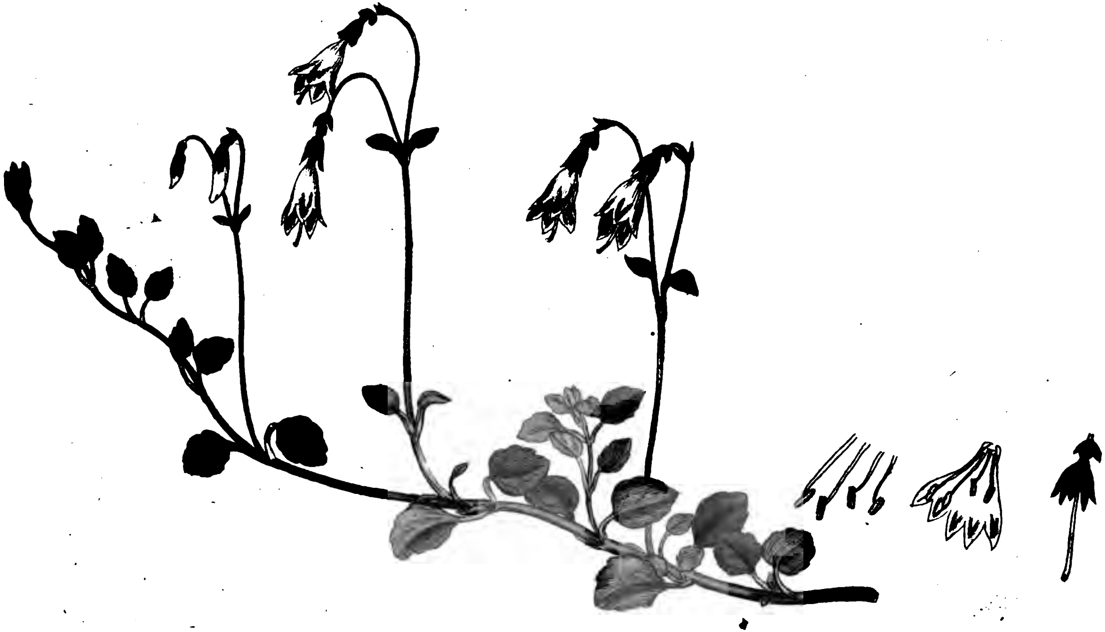
SPEC. CHAR. . . . . .

SYN. Linnæa borealis. *Linn. Sp. Pl.* 880. *Fl. Suec.* 219. *t.* 1. *Fl. Lapp. ed.*2.214. *t.* 12. *f.* 4. *Ait. Hort. Kew. v.* 2. 358. *Oed. in Fl. Dan. t.* 3. *Lamarck Fl. Franc. n.* 946. *Hall. Helvet. n.* 299. *Hoffm. Fl. Germ.* 221. *Trans. of Linn. Soc. v.* 3. 333. *With.* 556.

FOR this most interesting addition to the British Flora we are indebted to Professor James Beattie jun. of Aberdeen, who discovered it in an old fir wood at Mearns in that neighbourhood, and communicated wild specimens, along with an accurate coloured drawing, to the Linnean Society, June 2d, 1795. For the dissection of the flower only, which is a little magnified, we have been obliged to have recourse to a garden specimen. The *Linnæa* grows in dry stony mossy woods, flowering in May or June; and, as it has been found in Sweden, Germany, Switzerland, and the south of France, it seems wonderful that it should not long ago have been observed in Britain. This discovery, and some others we have of late had the pleasure of announcing, may encourage our domestic botanists to trust that the ardour and accuracy, in which they eminently excel those of most other nations, has not yet received its full reward, and that further acquisitions still remain to be made.

Root fibrous. Stems trailing, creeping, perennial, woody, round, leafy, a little branched, very long; the younger shoots slightly hairy. Leaves opposite, on footstalks, roundish or ovate, veiny, crenate in the forepart, paler beneath, with a few scattered hairs above. Flowering branches erect, 3 or 4 inches high, with a pair or two of leaves near the bottom, naked above, terminating in 2 equal flower-stalks with a pair of small leaves at their base, and each bearing one drooping flower accompanied by two small lanceolate bracteæ. Outer calyx of 2, often 4, roundish concave leaves, closely embracing the germen, which is roundish and crowned by the inner calyx, which consists of 5 deep equal lanceolate segments, surrounding the tube of the flower. Corolla bell-shaped with a tapering pale tube, and 5 equal segments, stained, especially on the inside, with red and some yellow. Stamina 4, 2 of them half as long again as the others. Style thread-shaped, ascending. Stigma capitate, rough. Fruit a dry berry, with 3 cells, each containing 1 or 2 seeds. The flower-stalks, bracteæ, germen and calyces are clothed with glandular viscid hairs. The flowers are said in the Flora Suecica to be very fragrant at night, smelling like the Meadow-sweet. Linnæus, in Critica Botanica p. 80, has traced a pretty fanciful analogy between his own early fate and this "little northern plant, long overlooked, depressed, abject, flowering early," and, we may now add, more honoured in its name than any other.

133.



by J. Sowerby London.

TRAGOPOGON pratensis.

Yellow Goat's-beard.

SYNGENEISIA Polygamia-æqualis.

Gen. Char. *Recept.* naked. *Cal.* simple, of many leaves. *Down* feathered.

Spec. Char. Calyx about equal to the corolla. Leaves undivided, carinated, long-pointed; broad and a little undulated at the base. Flower-stalk cylindrical.

Syn. Tragopogon pratense. *Linn. Sp. Pl.* 1109. *Huds.* 335. *With.* 672. *Relh.* 290. *Sibth.* 236.
T. luteum. *Raii Syn.* 171.

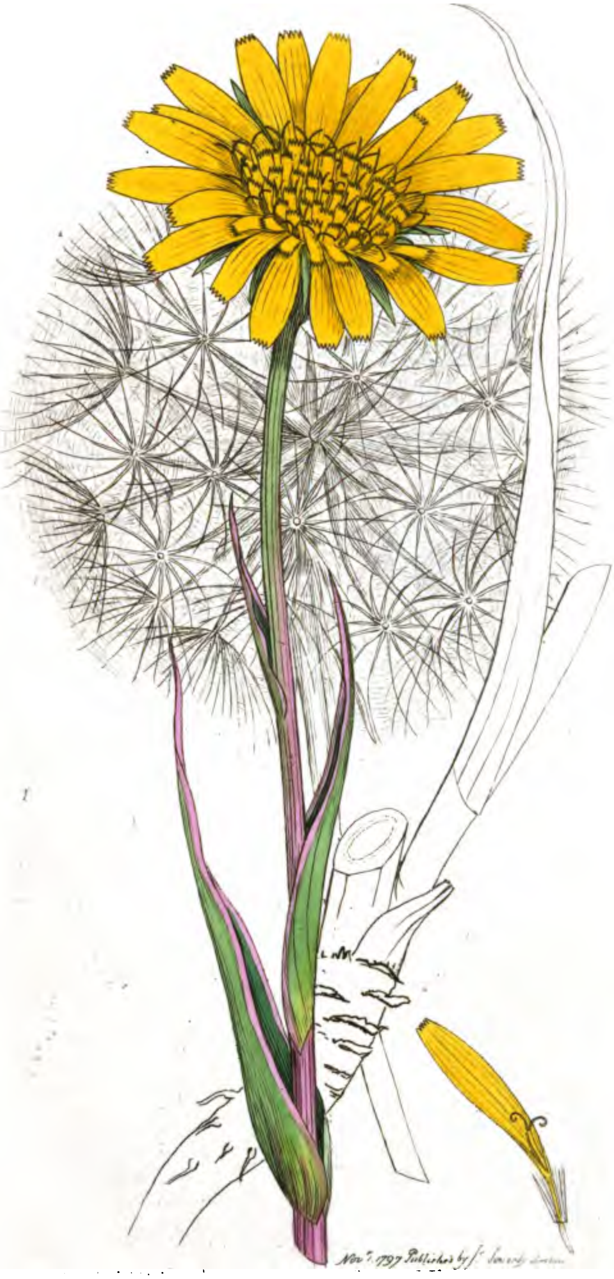
NOT unfrequent in grassy pastures and meadows, flowering in June.

Root biennial, tapering, abounding with milk but not acrid. Whole herb smooth. Stems several, branched, 18 inches or 2 feet high, leafy, round, often purplish; the branches being elongated into a simple naked flower-stalk, which is of an equal thickness throughout. Leaves alternate, sessile, some of them radical, others embracing the stem and branches, carinated, all broad and somewhat inflated at the base, but terminating in a long narrow point; very generally the margin towards the bottom is more or less waved or crisped. Flowers solitary, terminal, large and handsome, opening at day-break, and closing before noon, unless (as Mr. Relhan observes) the weather be cloudy. Calyx-leaves equal, though ranged alternately, or in two rows. Florets generally as long or longer than the calyx, yellow, with brownish nerves, especially on the upper side, the outermost row much longer than the rest. Antheræ brown or purplish. Germen with a tuft of hairs at the summit. Seed-down radiated and feathered, standing on a foot-stalk. Seed crooked, furrowed and roughish.

Such is our plant, which in so many respects agrees with the character, and even with the specimen, of Linnæus's *T. orientale,* that we are not sure of their being distinct; yet there can be still less doubt of ours being his *T. pratense.* In fact, the length of the outer florets is very variable.

All botanical writers, except Professor Jacquin, make *Tragopogon* of the neuter gender; but we see no reason why long use should perpetuate so manifest an error, as its derivation, as well as the best authorities, justifies its restoration to the masculine.

434.



Novr. 1. 1797 Published by Js. Sowerby London

MYOSURUS minimus.

Mouse-tail.

PENTANDRIA Polygynia.

GEN. CHAR. *Cal.* of 5 leaves, each with a spur at the base. *Petals* 5, with a tubular claw. *Seeds* numerous.

SPEC. CHAR. . . . .

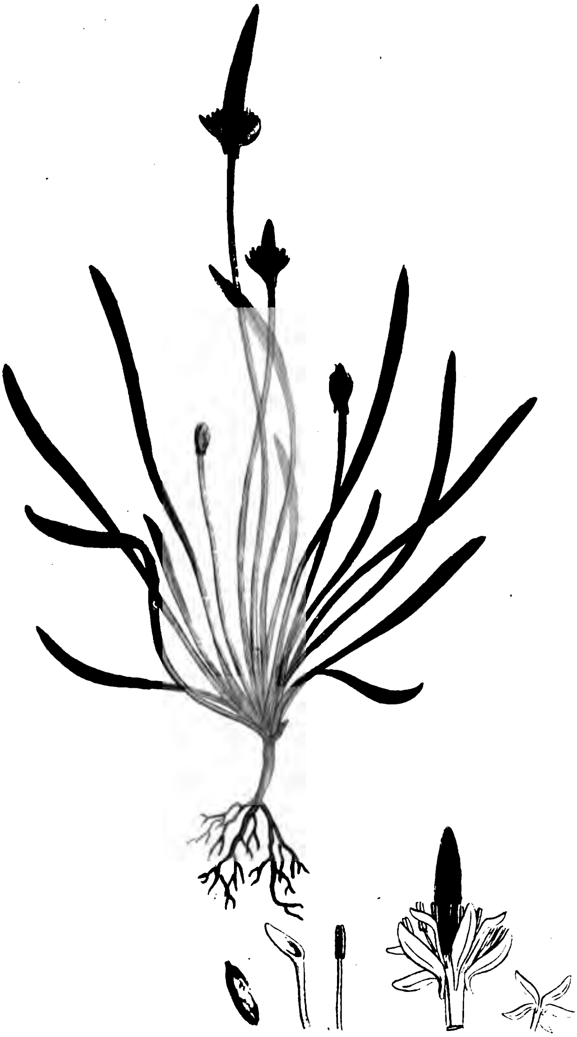
SYN. Myosurus minimus. *Linn. Sp. Pl.* 407. *Huds.* 136. *With.* 326. *Relh.* 132. *Sibth.* 107. *Curt. Lond. fasc.* 4. *t.* 26.

Myosuros. *Raii Syn.* 251.

A NATIVE of gravelly corn-fields, not unfrequent about London. It has also been observed in several parts of Norfolk, always flowering in the early part of summer; after which it soon sheds its seeds, and withers away.

Root annual, fibrous, very small. Herb smooth, varying extremely in size according to the luxuriance of the soil. Stem none. Leaves numerous, nearly upright, a little fleshy, of a linear somewhat spatulate form, entire, pale green. Stalks several, upright, longer than the leaves, simple, round, a little thicker upwards, each bearing a small, erect, pale yellowish flower. Calyx of 5 elliptical concave leaves, spurred at the base below their insertion. Petals 5, scarcely longer than the calyx, pale, slender, consisting of a honey-bearing tubular claw, and a short spreading lanceolate border. Stamina generally about 5, but in luxuriant plants much more numerous, the length of the corolla, with vertical linear antheræ. Pistillum conical, longer than the stamina, composed of a conical receptacle, covered with a great number (even 2 or 3 hundred) of ovate, striated germens, each furnished with its own minute sessile stigma. This plant affords a remarkable and rare instance of a very great disproportion of males to females in the same flower, and yet the latter are generally all prolific. The seeds are justly described by Linnæus as naked; for the part which Jussieu denominates a capsule, is surely nothing more than a thickened inseparable coat, as in *Ranunculus*, to which the *Myosurus* very nearly belongs; there being the closest affinity between the nectariferous pore in the claw of the petals in that genus, and the tubular claw of *Myosurus*.

435



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POLYGONUM amphibium.

Amphibious Persicaria.

OCTANDRIA Trigynia.

Gen. Char. *Cal.* coloured, in 5 segments, permanent. *Styles* 2 or 3. *Seed* solitary, angular, invested with the calyx.

Spec. Char. Styles two, united half way up. Stamina five. Spike ovate.

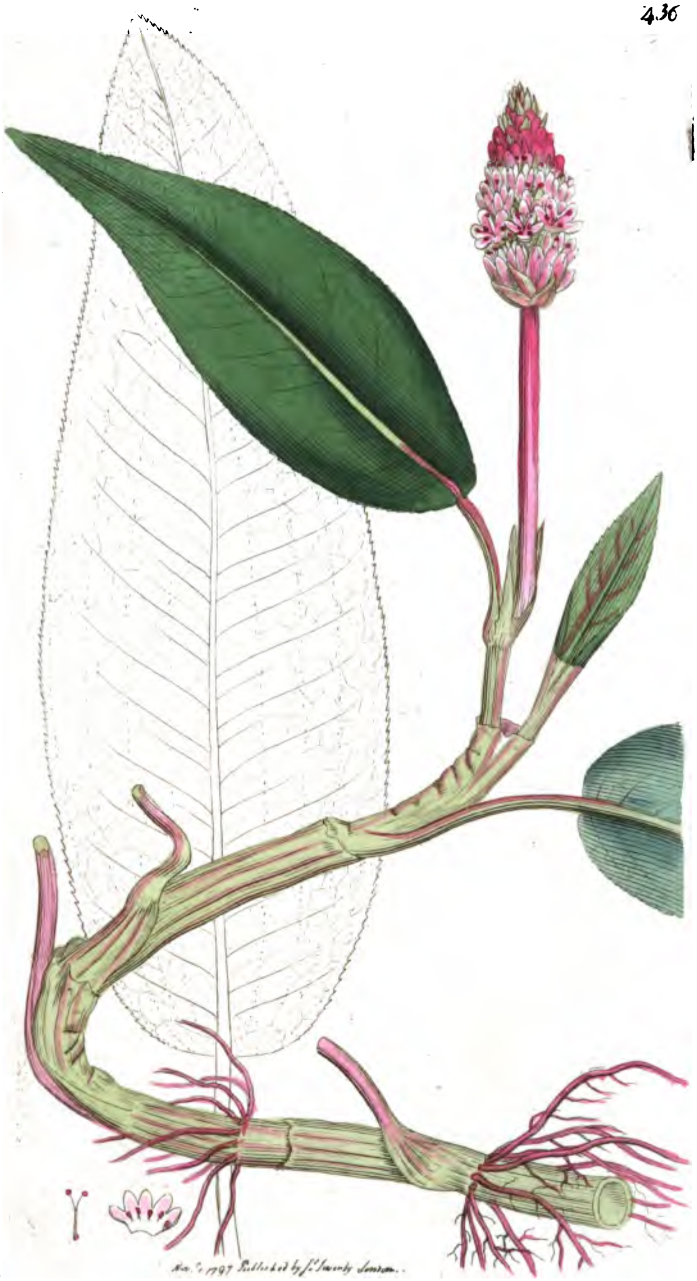
Syn. Polygonum amphibium. *Linn. Sp. Pl.* 517. *Huds.* 169. *With.* 379. *Relh.* 158. *Sibth.* 128. *Curt. Lond. fasc.* 4. *t.* 28.

Persicaria Salicis folio perennis. *Raii Syn.* 145.

Most commonly found growing in ponds and ditches, where its long creeping perennial roots run deep into the mud, throwing out whorls of fibres here and there, while the leaves float upon the surface, and the beautiful spikes of flowers are (in July or August) elevated above it. In this case the leaves are smooth, and of a bright green. Frequently however, as Ray observes, the roots are thrown out with the mud in clearing ditches; and if by that, or any other accident, the plant gets out of the water, the stems grow more erect, the leaves become narrower and hairy, and the flowers are more sparingly produced.

The stem is round, branching in the lower part, leafy, invested with tubular membranous stipulæ, which sheath it above as well as below the insertion of the foot-stalks. Leaves alternate, lanceolate or oblong, heart-shaped at the base, acute, ciliated with short bristly hairs. Spikes ovate, erect, on a reddish, generally smooth, flower-stalk, at first terminal, but at length the stem is protruded beyond it; sometimes two stalks grow together. Bracteæ ovate, membranous, pointed. Flowers on short foot-stalks, rose-coloured, composed of only a coloured calyx, for so we beg leave with Jussieu and Curtis to call it, on account of the analogy with *Rumex*, though Linnæus terms it a calyx-like corolla. This part is funnel-shaped, with 5 obtuse segments. Stamina but five, varying in length. Germen superior, red, bearing 2 styles united and red a good way above their base, white in the upper part, tipped with red globular stigmas. Seed compressed, brown, polished; according to Mr. Curtis, a favourite food of water fowl.

436



Nov. 1. 1797 Published by Js. Sowerby London.

[437]

SERAPIAS rubra.

Purple Helleborine.

GYNANDRIA Diandria.

Gen. Char. *Nectary* ovate, gibbous, with an ovate lip.

Spec. Char. Root creeping. Leaves lanceolate. Bracteæ longer than the germen. Flowers erect. Lip acute, marked with undulating lines.

Syn. Serapias rubra. *Linn. Syst. Veg. ed.* 14. 816. *With.* 42. *Fl. Dan. t.* 345.

S. longifolia δ. *Huds.* 394.

S. grandiflora δ. *With. ed.* 2. 1001.

Helleborine montana angustifolia purpurascens. *Raii Syn.* 384.

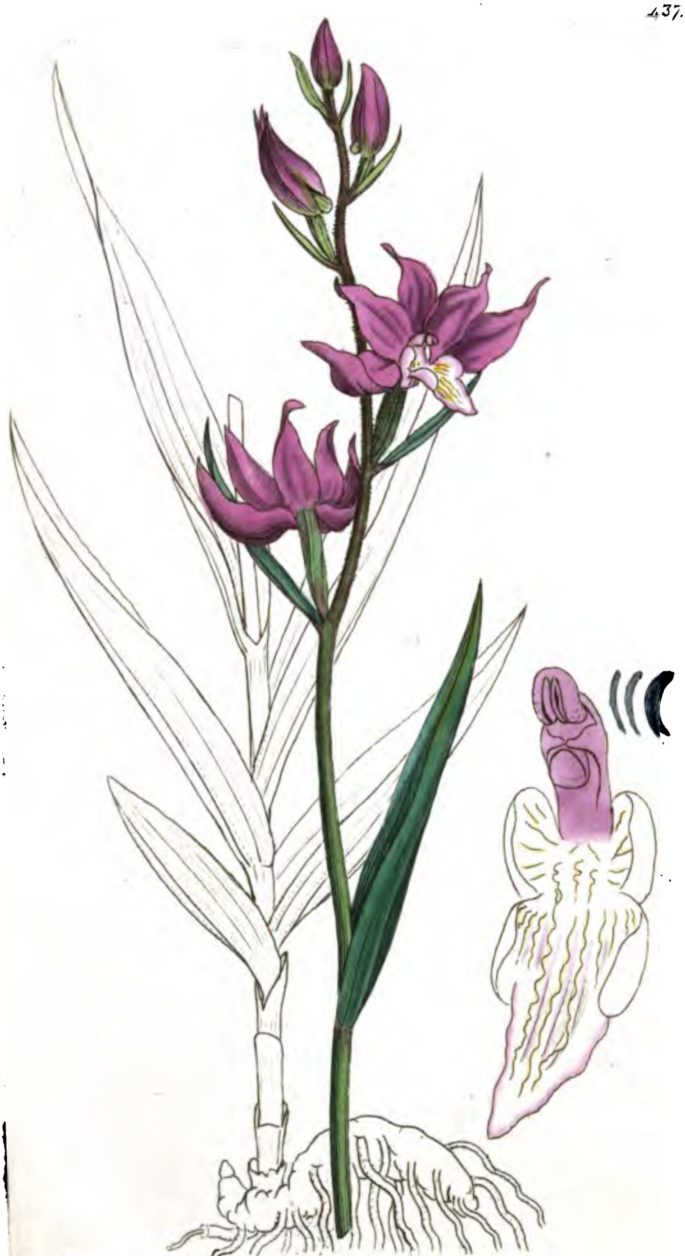
Epipactis N. 1299. *Hall. Hist. v.* 2. 156. *t.* 42.

DILLENIUS, in his edition of Ray's Synopsis, inserts this as a native of Ireland, on the authority of Plukenet; Hudson says it grows in the north part of Yorkshire; but Dr. Withering, who in his third edition has first rightly explained the species of *Serapias*, mentions the *rubra* as a very doubtful native. We are enabled to decide the question by means of this wild specimen, gathered last June on a steep stony bank, sloping to the south, on Hampton Common, Gloucestershire, by Mrs. Smith of Barnham House in that neighbourhood, who observed about a dozen of the plants within a small space. In the following month we received specimens gathered in another part of the same county by the Rev. Mr. Baker.

This is unquestionably a most distinct species, though confounded by Hudson with *grandiflora* (see our *t.* 271.) and *ensifolia*; nor were these plants ever well understood by Linnæus.

The root creeps horizontally, producing many long simple fibres. Stem perfectly erect, a foot high, leafy, downy; compressed, and with fewer leaves in the upper part. Leaves a little spreading in various directions, lanceolate, pointed, ribbed. Spike of from three to six upright purple flowers. Bracteæ lanceolate; the lowermost sometimes as long as its corresponding flower, the rest but a little longer than the germen, sometimes rather shorter. Germen slender, downy. Petals all directed upwards, ovate, very much pointed. Nectary with a short blunt projection behind, its lip about equal to the petals in length, white tipped with purple, lobed on each side at the base, marked with yellow elevated undulating lines, and terminating in a sharp point; by which marks it is certainly distinguished, as Haller observes, from *S. grandiflora*.

437.



Nov.r 1 1797 Publish'd by J. Sowerby London.

EPIMEDIUM alpinum.

Barren-wort.

TETRANDRIA Monogynia.

Gen. Char. *Petals* 4. *Nectaries* 4 pouches, lying on the petals. *Calyx* opposite to the petals, caducous. *Pod* of one cell, with many seeds.

Spec. Char. . . . . .

Syn. Epimedium alpinum. *Linn. Sp. Pl.* 171. *With.* 199. *Ait. Hort. Kew. vol.* 1. 157.

THE first information we had of this as a British production was from Thomas Gisborne, Esq. of Yoxall Lodge, Staffordshire, who about six or seven years ago received a living plant collected by Mr. Thomas Hutton some time before upon Carrock Fell, Cumberland. Our specimen came from the garden of John Walker, Esq. who last year received from Mr. Hutton a portion of the original root. Dr. Withering has lately introduced the *Epimedium* into his work on the authority of Dr. Richardson, who is said in Blackstone's *Specimen Botanicum* to have found it in Bingley Woods, Yorkshire, and of Mr. Robson, who lately obtained a specimen from Skiddaw. We think therefore there can be no further doubt upon the subject. It is probable that this plant, curious and beautiful as it is, may have generally escaped notice, from flowering early in the spring, after which its leaves soon wither away, before the wild bushy places it inhabits are commonly visited by botanists.

Root perennial, slender, creeping. Stems upright, scarcely a foot high, round, smooth, simple, bearing one alternately branched upright panicle of dark red drooping flowers, and one large twice or thrice compound leaf, divided in a threefold order, and composed of large, thin and delicate heart-shaped, pointed, finely ciliated leaflets, glaucous beneath, pendent, and, from their almost capillary foot-stalks, trembling to every breath of air. The terminal leaflets, and one of the lateral ones, are ternate; the other lateral one mostly simple: nor are the two sides of the general leaf ever compounded exactly in the same manner. Perhaps what is called the stem ought to be reckoned only the foot-stalk of the leaf, which, as in *Turnera*, bears the flower-stalk. The peduncles are rough with glandular hairs. Calyx of four concave greenish leaves, falling off as the flower expands. Petals dark red, ovate, opposite to the calyx. Nectary of four oblong blunt yellowish pouches, opening inwards, full of honey, and lying on the petals. Stamina awl-shaped; antheræ united with them longitudinally, and bursting on each side by a cover which separates from the base as in *Leontice* and *Laurus*. Germen ovate, becoming an oblong pod of one cell, two valves, and several seeds.

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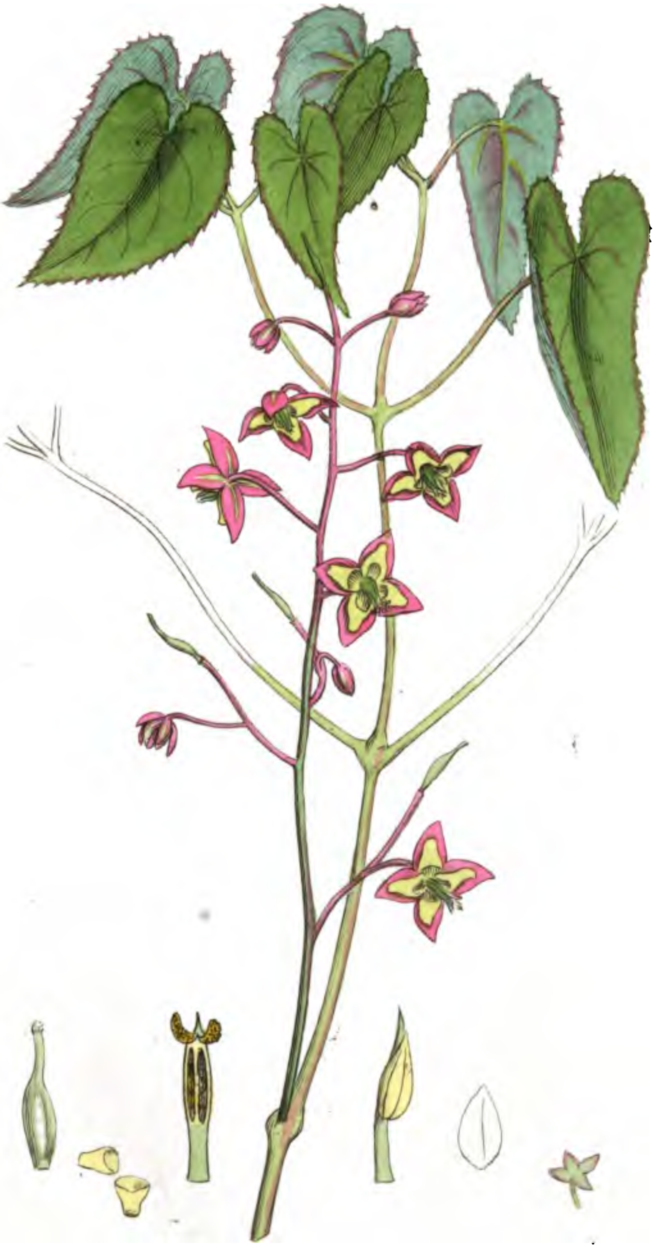

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BRYONIA dioica.

Red-berried Bryony.

MONOECIA Syngenesia.

Gen. Char. Male, *Cal.* 5-toothed. *Cor.* 5-cleft. *Filaments* 3. *Antheræ* 5.
Female, *Cal.* 5-toothed. *Cor.* 5-cleft. *Style* 3-cleft. *Berry* inferior, roundish, with many seeds.

Spec. Char. Leaves palmate; rough on both sides with callous points. Male and female flowers on separate plants.

Syn. Bryonia dioica. *With.* 67. *Sibth.* 82. *Jacq. Austr. v.* 2. *t.* 199.
B. alba. *Huds.* 437. *Relh.* 375. *Raii Syn.* 261.
B. ruderalis. *Salisb. Prodr* 158.

COMMON every where in hedges and thickets, flowering from May to September.

Root perennial, growing to a very large size, white, acrid, and purgative (see Withering). Stems annual, climbing by means of simple tendrils, angular, rough, not much branched, very long. Leaves alternate, on rough foot-stalks, palmate, with five angular lobes, veiny, rough on both sides with small callous points. Stipulæ none. Flowers in axillary bunches, the males larger, on longer stalks, and on a separate root from the female, contrary to the other species of this genus, which therefore stands in the class *Monoecia* of the Linnæan system. Calyx bell-shaped, with five sharp teeth. Corolla longer, in five elliptical obtuse segments, whitish, veined with green. Stamina consisting of three short filaments hairy in their lower part, two of which bear each of them two antheræ, and the third a solitary one, though Mr. Sowerby has observed all of them to bear double antheræ occasionally. The antheræ are all more or less firmly connected at their base, and bear the pollen on their outer edge. The female flowers are a little elevated on a short stalk above the smooth globular germen, and have no rudiments of stamina. The style is divided into three branches with cloven downy stigmas. Berry red, of one cell, full of fœtid juice, enveloping six elliptical spotted seeds.

Most writers have confounded this with the *Bryonia alba* of Linnæus, called *alba* from the white root, though the berries of that are black. Dillenius, on the authority of Plukenet, mentions it as not rare about Cambridge; but Professor Martyn assures us no one else has found it. The *alba* is the Swedish plant, see *Flora Suecica.*

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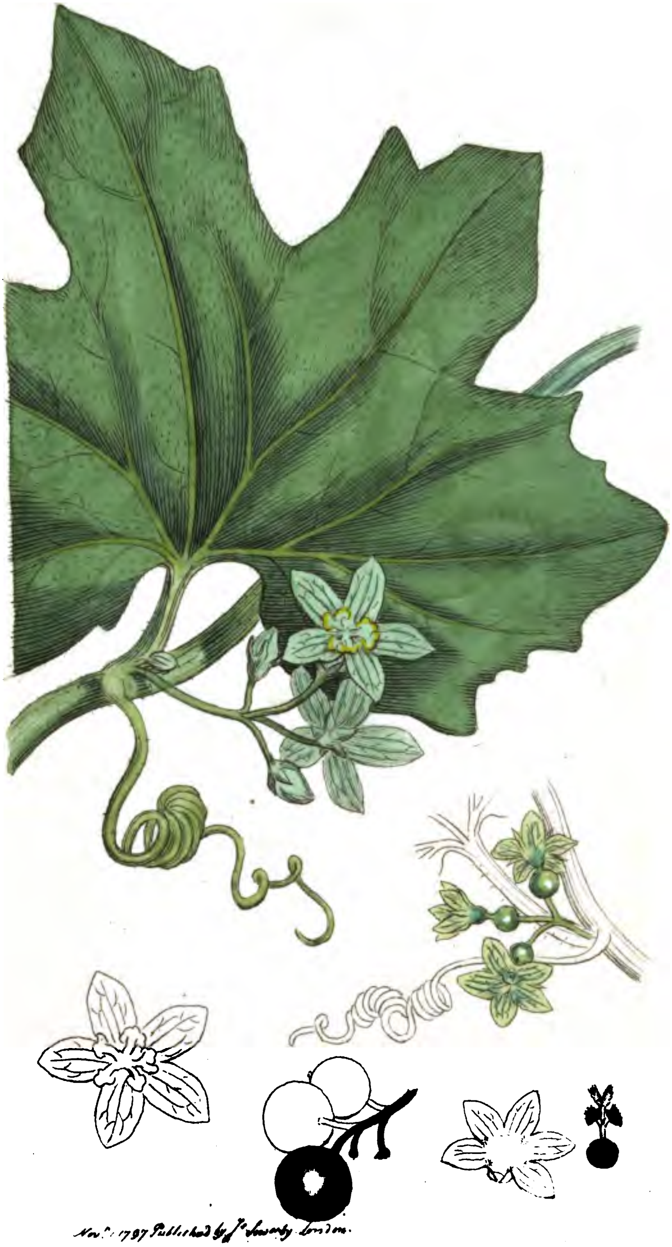

Novr. 1. 1797 Published by Js. Sowerby London.

SAXIFRAGA nivalis.

Clustered Alpine Saxifrage.

DECANDRIA *Digynia.*

Gen. Char. *Cal.* 5-cleft. *Petals* 5. *Caps.* with two beaks, one-celled. *Seeds* numerous.

Spec. Char. Leaves obovate, serrated. Stem simple, naked. Flowers clustered.

Syn. Saxifraga nivalis. *Linn. Sp. Pl.* 573. *Huds.* 180. *With.* 403. *Lightf.* 221, *tab.* 12.

S. foliis oblongo-rotundis dentatis, floribus compactis. *Raii Syn.* 354, *tab.* 16. *f.* 1.

THIS, the most alpine of our British saxifrages, is found about the summits of the highest mountains only, in Scotland and Wales, where it flowers throughout the short summer of those exalted regions, but most naturally and plentifully in August. Dr. Smith found it sparingly, in 1782, under the shade of a rock to the west, among some large dispersed masses of white quartz on the top of Ben Lomond. We have been favoured with wild fresh specimens from Wales last summer (along with many other rare plants) by I. W. Griffith, Esq. F.L.S. of Garn near Denbigh, whose remarks on its extreme variableness, as to size, shape of the leaves, luxuriance of its flowering-stem, and number of flowers, may be seen in Dr. Withering's new edition.

Root perennial, black, sending down long fibres into the black moist ground. Leaves radical, spreading, fleshy, obovate, strongly serrated, lengthened out at the base, dark green above, purplish beneath (especially near the edges and tips), hairy about the margin. Stalk for the most part solitary, erect, three or four inches high, simple, leafless, round, clothed in the upper part with fine hairs tipped with viscid moisture, terminating in a cluster of several flowers on short (sometimes branched) flower-stalks, the lowermost often accompanied by a simple entire bractea. Teeth of the calyx fleshy, purple. Petals ovate, obtuse, white spotted with pale green, frequently purplish. Pistilla white or purplish. It has most affinity with S. *stellaris*, see *t.* 167, but may easily be known by the characters given above. Ray's figure is better than Lightfoot's; but neither is very good. Flora Danica, *t.* 28, represents a luxuriant branched specimen.

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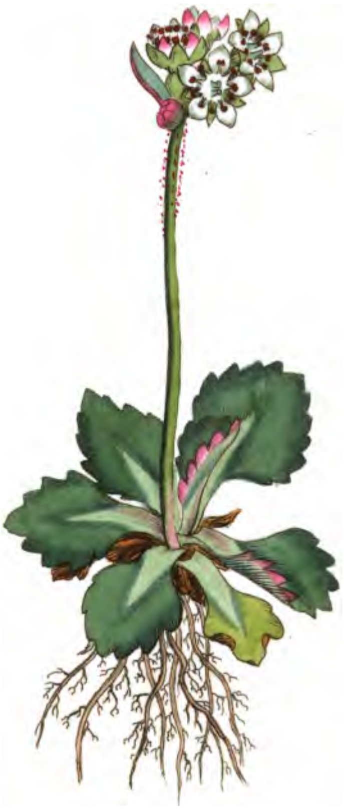

Nov.r 1 1797 Published by J. Sowerby London

EUPHORBIA Portlandica.

Portland Spurge.

DODECANDRIA Trigynia.

Gen. Char. *Petals* 4 or 5, standing on the calyx. *Cal.* of one leaf, inflated. *Caps.* 3-lobed.

Spec. Char. Umbel of 5 rays, forked. Partial involucra nearly heart-shaped, concave. Leaves linear-lanceolate, pointed, smooth, spreading.

Syn. Euphorbia Portlandica. *Linn. Sp. Pl.* 656. *Huds.* 208. *With.* 448.

Tithymalus maritimus minor Portlandicus. *Raii Syn.* 313, *t.* 24. *f.* 6.

SPECIFIC names taken from the local situations of plants are generally exceptionable, but in the present case less so than usual; the Portland Spurge being found wild chiefly on or about the peninsula called Portland-island on the Dorsetshire coast. It sometimes indeed occurs on the shores of Devonshire, and we have a specimen collected by F. Borone in Cornwall. That here delineated was gathered by A. B. Lambert, Esq. on rocks hanging over the sea on the south side of Portland-island, flowering in August.

Root (we believe) perennial, long, branching, whitish. Stem scarcely a foot high, round, woody, leafy, purplish in autumn, terminating in a 5-rayed umbel, with 2 or 3 straggling flower-stalks beneath it, which, like those that compose the umbel, are about twice forked. Leaves scattered, linear-lanceolate, inclining to be obovate or spatulate, obtuse with a sharp point, spreading, glaucous, as is every other part of the herb. General involucrum of five leaves like those of the stem; partial ones in pairs, rhomboid, scarcely heart-shaped, a little concave, pointed, entire. Calyx pale. Petals 4, greenish yellow, horned. Fruit slightly tuberculated at the projecting parts. Linnæus, in cultivating this plant, observed the first and second flowers to be only males, and to have blunt petals without horns. We have found none such.

We beg leave to correct an unaccountable error into which we have fallen in the generic character of all the *Euphorbiæ* hitherto figured in this work, *t.* 195, 256 and 333; instead of the petals being 3 or 4, we ought to have said 4 or 5. Those who are most used to compose works of science, will most readily pardon similar blunders.

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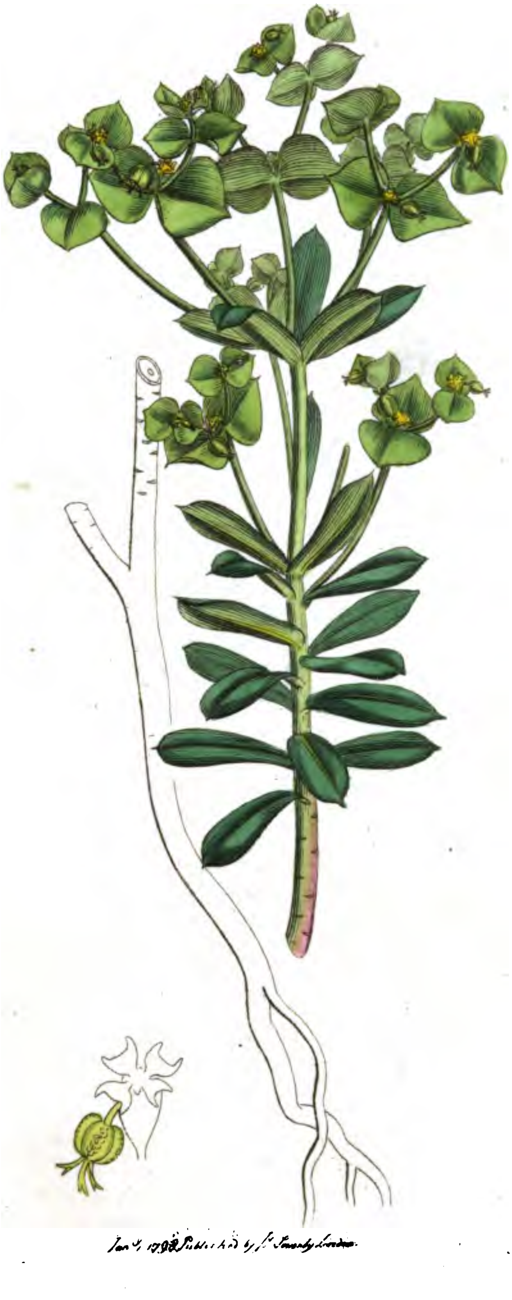

Jan 1, 1798 Published by J. Sowerby London.

EUPHORBIA Characias.

Red Spurge.

DODECANDRIA Trigynia.

Gen. Char. *Petals* 4 or 5, standing on the calyx. *Cal.* of one leaf, inflated. *Caps.* 3-lobed.

Spec. Char. Flower-stalks scattered and umbellate, cloven. Partial involucra perfoliate with a notch between, and tipped with a small point. Leaves lanceolate, entire. Stem shrubby. Fruit hairy.

Syn. Euphorbia Characias. *Linn. Sp. Pl.* 662. *Huds.* 211. *With.* 451.

Tithymalus characias Monspeliensium. *Raii Syn.* 312.

OBSERVED in the forest of Needwood, Staffordshire, in great plenty, undoubtedly wild, by Mr. Whately, surgeon in the Old Jewry, London. Ray mentions its growing in that county, but suspected it to have been planted there. The root from which our specimen was taken, was found wild two years since.

This is a large handsome species; but not pleasant in a garden, on account of the disagreeable smell of its flowers. The root is perennial. Stem shrubby, three or four feet high, round, clothed with soft down; as are also the leaves, which are numerous, thick-set about the upper part of the branches, lanceolate, bluntish, dark green above, pale beneath, spreading. Flower-stalks, many of them axillary, the rest forming a terminal many-rayed umbel, as in *E. amygdaloides*, *t.* 256, with which *E. Characias* agrees much in habit, but is more shrubby, the leaves more thickly clothed with shorter downiness, the petals dark red, and less pointed, the antheræ of two roundish (not wedge-shaped) lobes, and the germen and fruit very hairy instead of being quite smooth. The partial involucra in both are perfoliate, with a notch between them on each side half way to the base, to which we presume Linnæus alluded when he defined those of the *Characias* "emarginate;" for in their termination they are rather more pointed than those of the *amygdaloides*, and by no means notched either in his own or any other specimens. If his definition is not to be reconciled on this ground, it is erroneous, and at any rate it belongs equally to both these species. The above-mentioned differences distinguish them best.

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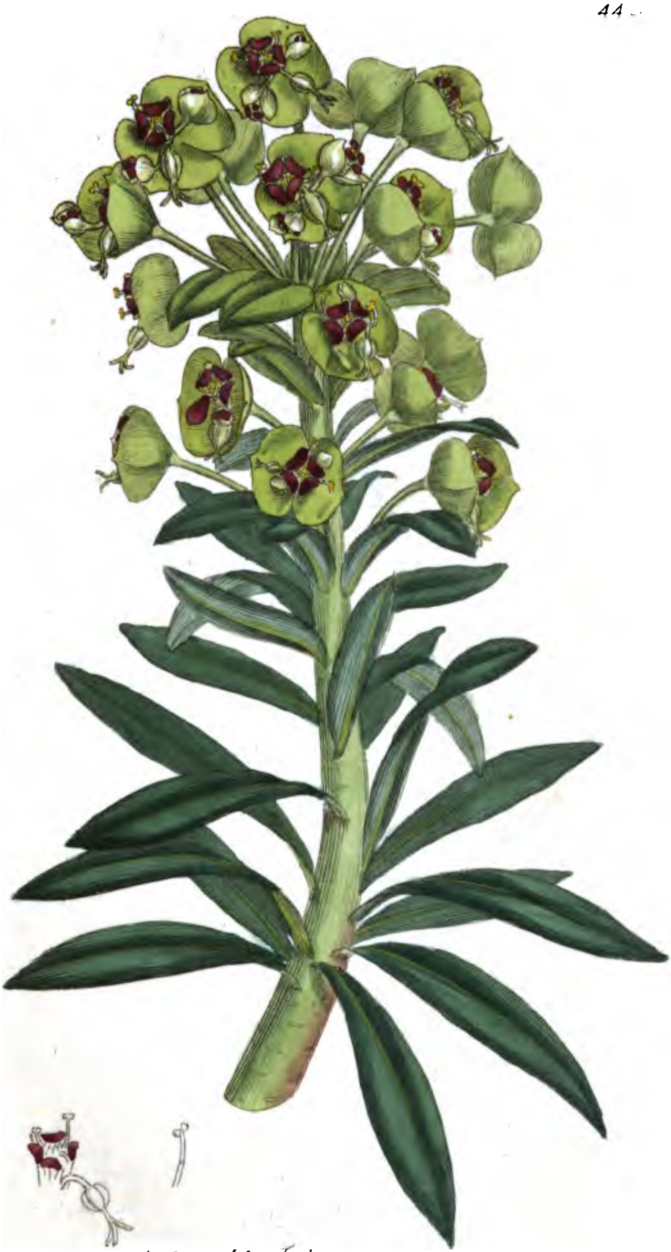


January 1st 1797 Published by J. Sowerby Lond.

ERYSIMUM Barbarea.

Yellow Rocket.

***TETRADYNAMIA** Siliquosa.*

Gen. Char. *Pod* columnar, exactly square. *Cal.* closed. *Stigma* blunt.

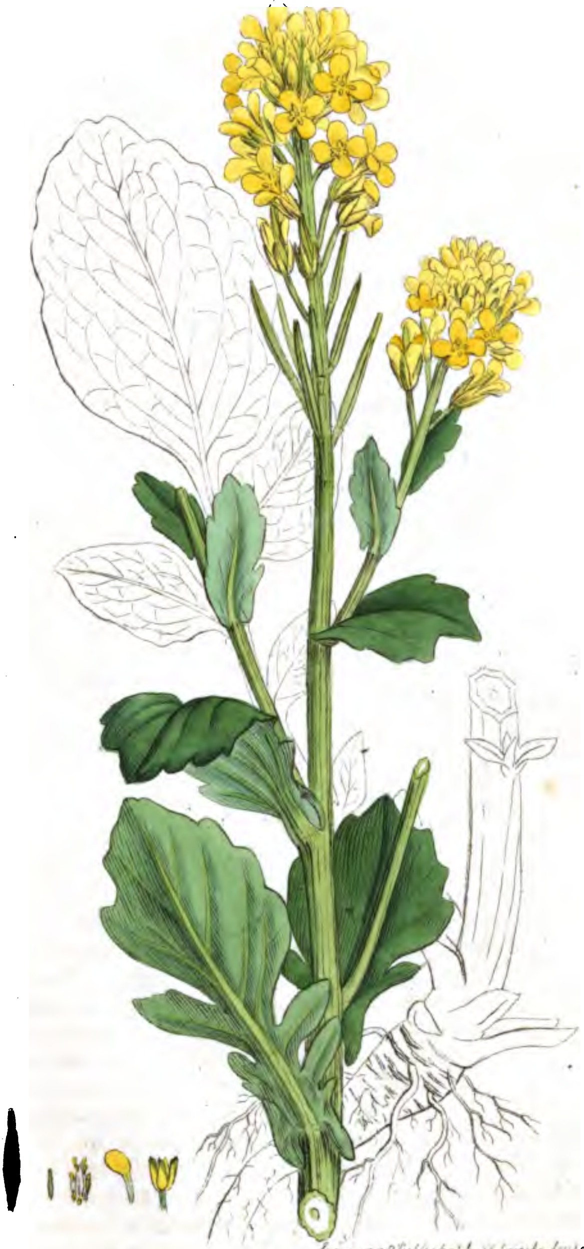
Spec. Char. Lower leaves lyrate, the terminal lobe roundish; upper ones obovate, dentate.

Syn. Erysimum Barbarea. *Linn. Sp. Pl.* 922. *Huds.* 286. *With.* 584. *Relh.* 250. *Sibth.* 202.
Eruca lutea, seu Barbarea. *Raii Syn.* 297.

FREQUENT every where about hedges, waste ground, and the banks of rivers, flowering from May to the end of summer.

Root perennial, tapering. Stem 2 or 3 feet high, simple, or branched, erect, strong, angular and furrowed, smooth. Radical and lower stem-leaves lyrate; the upper ones gradually becoming less divided, and at length obovate; all are alternate, of a deep shining green, strongly veined, smooth, dentate, and are extended on each side at the base so as to clasp the stem. Flowers in terminal corymbi, soon lengthened out into spikes, numerous, yellow, the calyx also being partly coloured. When double, they continue long in beauty, and are introduced into gardens. There are two glands on the outside of the longer stamina, and two under the shorter ones. The Pod is quadrangular, though less sharply so than in some other species.

The taste of this herb, though ever so young, is bitterish, slimy, and very nauseous: yet Linnæus, in Flo. Suec. says it is used as a spring sallad. What his variety β may be (the *Barbarea foliis minoribus & frequentius sinuatis* of Dillenius in Ray's Synopsis,) we are not certain, neither does Dr. Withering appear to have seen it. Linnæus however, in a manuscript note, says it is insipid and void of acrimony, and that the leaves are not lyrate, but the radical ones entire, and cordato-ovate. This variety therefore can scarely be the American Winter Sallad, or Winter Cress of the gardens, which tastes pleasantly and warm like water-cresses, and which we suspect to have been generally confounded with *Erysimum Barbarea.* Tradition says it was introduced a few years ago from America. We have found it apparently wild in a lane near Leeds, and have been inclined to add it to the British Flora. It is a true *Erysimum*, having a quadrangular pod, calyx leaves cohering, much broader than those of *Barbarea*, from which it also essentially differs in having all its upper leaves pinnatifid, with oblong, almost linear obtuse and entire segments, not to mention the wide differnece in flavour.



Jan. 1 1798 Publish'd by J. Sowerby London

VIOLA palustris.

Marsh Violet.

PENTANDRIA *Monogynia.*

Gen. Char. *Cal.* 5-leaved. *Petals* 5, irregular, the lowermost spurred behind. *Capsule* superior, of one cell, with 3 valves.

Spec. Char. Stem none. Leaves kidney-shaped.

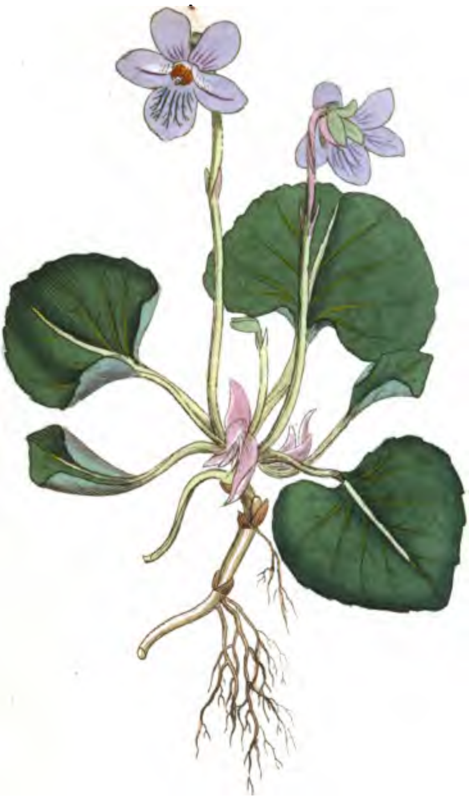
Syn. Viola palustris. *Linn. Sp. Pl.* 1324. *Huds.* 379. *With.* 261. *Lightf.* 506. *Curt. Lond. fasc.* 3. *t.* 58.

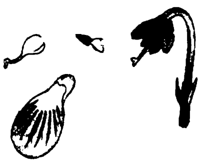
V. palustris rotundifolia glabra. *Raii Syn.* 364.

ON the moist parts of sandy or turfy heaths, more frequent in Scotland, and in the north of England, than in the south; yet it is found plentifully (according to Mr. Curtis) near Croydon, and our specimen was gathered in Norfolk by Mr. Dawson Turner. This violet is not mentioned in the Floras of Relhan or Sibthorp, though Ray says it grows near Oxford.

Root perennial, creeping, somewhat fleshy, with many fibres. Stem none. Leaves on smooth semi-cylindrical foot-stalks, spreading, kidney-shaped, more or less pointed, crenate, veiny, smooth, of a delicate texture, often purple beneath. Stipulæ radical, ovate, acute, smooth, scarcely perceptibly serrated. Flower-stalks longer than the leaves, erect, square, smooth, with a pair of lanceolate erect bracteæ about the middle, not always below the middle as mentioned in the Flora Londinensis. Flowers appearing in May solitary, drooping, inodorous, paler and smaller than in the more common species. Calyx-leaves rather elliptical, slightly membranous at the edge. The 2 upper petals are scarcely streaked at all; the 2 lateral ones have one dark longitudinal line, and are bearded with white near the base; the lowermost is beautifully marked with numerous branched streaks, and terminates behind in a short blunt honey-bearing spur. The antheræ are bordered with an orange-coloured membrane; but, though collected together, they are scarcely united, any more than in other species of *Viola*, so that whether the Linnæan System remain in its original form or not, this genus ought no longer to continue in the class *Syngenesia*. Stigma acute, with a singular protuberance above it.

Such is our plant, which agrees precisely with the Linnæan specimen. The *Viola rubra striata Eboracensis* Raii Syn. 365, should seem by coloured copies of the Flora Danica to be t. 83 of that work; and the leaves are there represented less pointed, or more truly kidney-shaped, than ours, but we have no doubt of its being merely a variety.





VIOLA lactea.

Cream-coloured Violet.

PENTANDRIA Monogynia.

Gen. Char. *Cal.* 5-leaved. *Petals* 5, irregular, the lowermost spurred behind. *Capsule* superior, of one cell, with 3 valves.

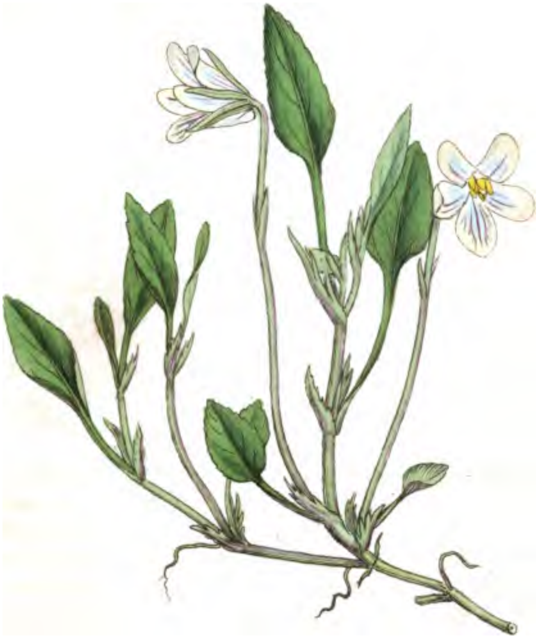
Spec. Char. Stem ascending. Leaves ovato-lanceolate.

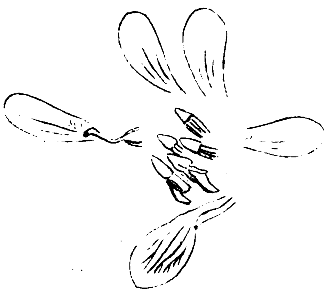
Syn. Viola canina, var. 3. *With.* 262.

WE are extremely doubtful of the permanency of this species, and now publish it as distinct from *V. canina*, rather in conformity to the opinion of others, and in hopes of having the point cleared up by investigation and culture, than as wishing to decide upon it ourselves. The root from which our specimen was taken, was gathered on the wolds near Tunbridge-wells, by Mr. T. F. Forster, jun. and flowered lately in his garden. This gentleman communicated it to Mr. Sowerby, as a new species of *Viola;* and his opinion is of the greatest weight, no one hitherto having studied this whole genus, both foreign and domestic, half so accurately and laboriously.

The root is perennial. Herb in all its parts much smaller than the *canina*, quite smooth. Stems procumbent at the base, and throwing out radicles, then erect, round, branched, leafy. Leaves alternate, on foot-stalks about their own length, generally erect, lanceolate, or inclining to ovate, decurrent (not cordate) at their base, veiny, crenate, rather obtuse. Stipulæ deeply toothed, and often pinnatifid. Flower-stalks axillary, solitary, erect, rising as high as the branches, each bearing above its middle a pair of purplish lanceolate bracteæ, mostly toothed near their base, and at the top one nodding flower. Calyx-leaves linear-lanceolate. Petals cream-coloured, obtuse, much narrower than in *V. canina*, streaked, especially the lower one, with purple lines disposed as those in *V. canina*, and the two side petals (as in that) are hairy above the base. Spur short and blunt. Antheræ terminating in a broad dilated membrane, not cohering to each other. What distinguishes our *V. lactea* from *canina* is principally the narrow and lanceolate (not heart-like) form of the leaves, which if permanent is sufficient. The stipulæ also appear to be more deeply cut; and the bracteæ, which are entire and almost setaceous in *canina*, are lanceolate, and mostly toothed. It flowers in May, and, if we are right in the quotation of Dr. Withering, has been found by Mr. Stackhouse in Cornwall.

445.





1797 Published by Jas. Sowerby London

MENTHA rotundifolia.

Round-leaved Mint.

DIDYNAMIA Gymnospermia.

Gen. Char. *Cor.* nearly regular, 4-cleft; its broadest segment notched. *Stamina* erect, distant.

Spec. Char. Spikes oblong. Leaves sessile, roundish, rugged, shaggy, sharply crenate. Bracteæ lanceolate. Stamina longer than the corolla.

Syn. Mentha rotundifolia. *Linn. Sp. Pl.* 805. *Huds.* 251. *With.* 522.

Menthastrum folio rugoso rotundiore spontaneum, flore spicato, odore gravi. *Raii Syn.* 234.

WITH cautious steps we enter upon the English mints; which have hitherto been very imperfectly understood, and we shall therefore be more sparing than usual in our quotations of British authors. We have long been in expectation that the subject would have been taken up professedly by some able practical observer. The world still looks to the ingenious Mr. Sole of Bath, and it is hoped his observations on this difficult genus will not be long withheld. A complete set of specimens, named by himself, and compared by us with the Linnæan herbarium, have been of great use; as well as others collected by the pupils of Ray and Dillenius, communicated by Sir Joseph Banks. We shall therefore, by these authorities, and our own practical and repeated investigations, try to establish each species step by step, as every one that is so established lessens the difficulty with the remainder.

The *Mentha* now before us is very near, if not the same, to what Linnæus intended for *crispa* in the first edition of Species Plantarum, but is not that of the second edition and all other authors, which has never yet been found in Britain. Ours is also *M. Spicata* γ of that first edition.

With us it is rather rare; growing in waste ground, generally where there is moisture; and flowering in August and September. This specimen was gathered by the Rev. Mr. Forby, on the edge of an old moat at Shingham, Norfolk. We have the same collected in Essex, by J. Walford, Esq. In gardens it is often found variegated.

The root is perennial and creeping, as usual in this genus. Stems 2 or 3 feet high, erect, square, hairy or shaggy, the hairs pointing more or less downwards. Leaves roundish, somewhat heart-shaped, rugged, strongly and sharply crenate, or rather serrated, the teeth and points of the small upper ones being often very taper. The under side is shaggy, not hoary, and all the veins are fringed as it were with close hairs. Spikes several, terminal, erect, sharpish, not very densely whorled; the bracteæ lanceolate, hairy, sharp, and projecting. Flowers reddish. Calyx-teeth broad at the base. Stamina always much longer than the corolla; which circumstance, tho' occasionally variable, as the Rev. Mr. Bryant and Mr. Pitchford long ago observed, is not totally to be overlooked in mints. In general, indeed, when the plant increases much by root, the stamina are short and abortive, as in the orange lily.

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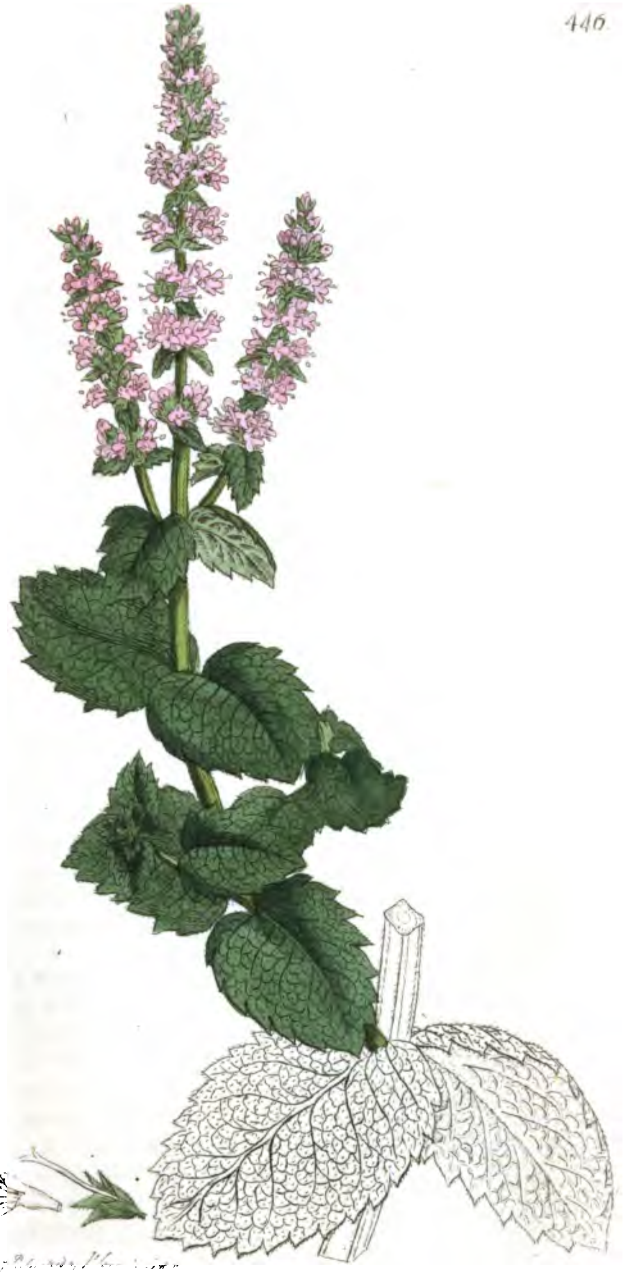

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MENTHA hirsuta.

Hairy Water-Mint.

DIDYNAMIA Gymnospermia.

Gen. Char. *Cor.* nearly regular, 4-cleft; its broadest segment notched. *Stamina* erect, distant.

Spec. Char. Flowers in dense compound terminal heads. Leaves on short foot-stalks, ovate, serrated, hairy. Stamina longer than the corolla.

Syn. Mentha hirsuta. *Linn. Mant.* 81. *With.* 522. *Huds. ed.* 1. 223.
M. aquatica β et γ *Huds.* 252.
Sisymbrium hirsutum. *Raii Syn.* 233.

VERY common in clear ditches, rivulets, and other watery places, growing sometimes among large grasses and reeds, sometimes by itself, flowering in August.

Roots long, branched, creeping under water, perennial. Stem square, branched, very generally purplish, rough with deflexed hairs, which are scattered all over it, not ranged along the edges; there is however a dense tuft of similar hairs, between the insertions of the foot-stalks, which are erect, and the hairs on the foot-stalks and leaves also point upwards or forwards. The degree of hairiness throughout the whole plant varies extremely. Branches opposite. Leaves on shortish foot-stalks, sometimes almost sessile, spreading, ovate, frequently approaching to elliptical, pointed, serrated from a little above the base to near the tip, paler and most hairy beneath, especially about the nerves. Flowers lilac-coloured, numerous, in a large round terminal head, which, when accurately observed, is found to be divided into three parts, and is accompanied (at a greater or less distance below it) by a pair, rarely more, of smaller axillary heads. Flower-stalks and calyx very hairy. Stamina generally longer than the corolla.

When out of the water it grows much smaller, more purple, with a simple head of flowers, which seems to be Hudson's variety γ, though not very well drawn by Dillenius in Ray's Synopsis, *tab.* 10. *f.* 1.

Hudson has considered this as the same species (possibly justly) with the *Mentha aquatica seu Sisymbrium* of John Bauhin, and Ray's Synopsis p. 233, which we believe to be the *M. piperita* of Linnæus, and which is described in Sir Joseph Banks's manuscripts by the name of *M. Sisymbrium*. The *M. aquatica* of Linnæus seems different from both the above, but we have not yet sufficiently investigated that point.

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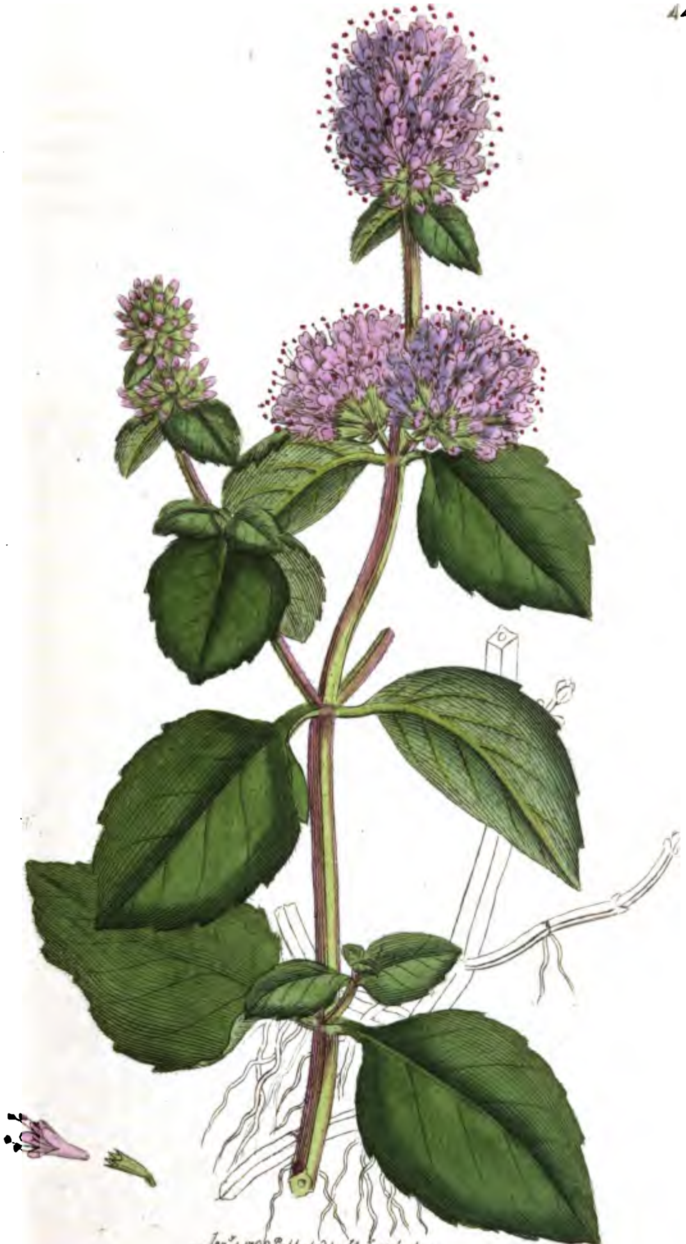


Jan.y 1. 1798 Published by J.s Sowerby London.

MENTHA sativa.

Marsh Whorled Mint.

DIDYNAMIA Gymnospermia.

Gen. Char. *Cor.* nearly regular, four-cleft, its broadest segment notched. *Stamina* erect, distant.

Spec. Char. Flowers whorled. Stem erect. Leaves on winged foot-stalks, ovate, serrated, pubescent. Flower-stalks and calyx hairy.

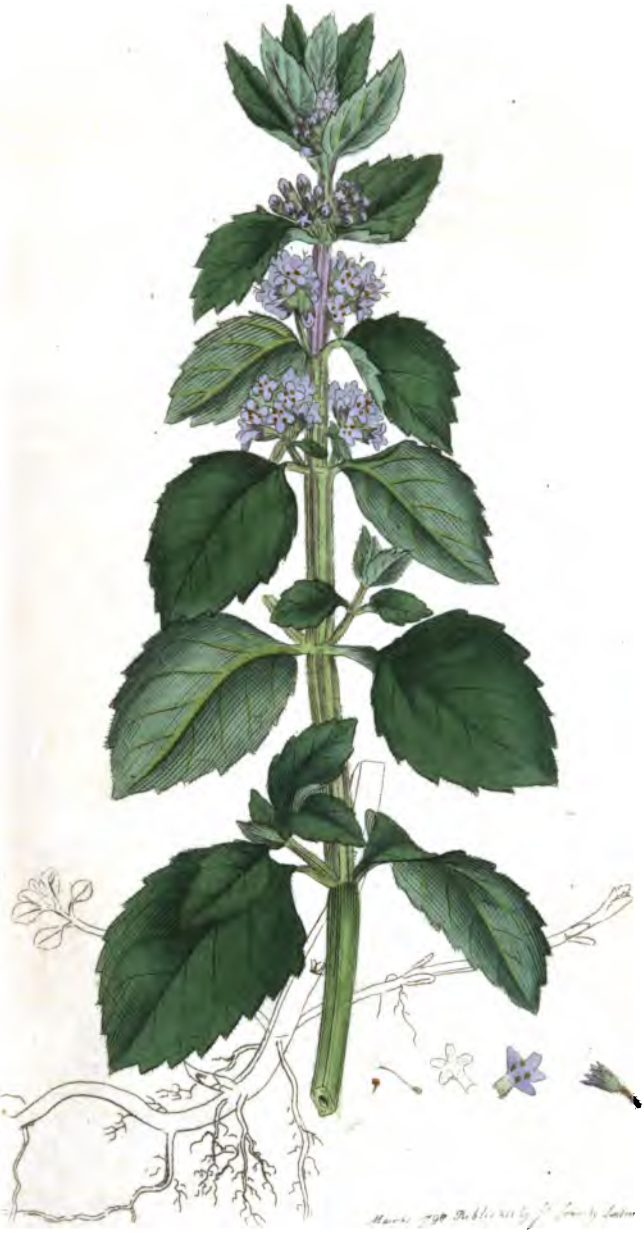
Syn. Mentha sativa. *Linn. Sp. Pl.* 805. *Huds.* 253.
M. verticillata. *Raii Syn.* 232. *Linn. Syst. Nat. ed.* 10. 1099. *Huds. ed.* 1. 222.

GATHERED by Mr. Edward Forster, jun. on the banks of the river Lea in Low Leyton marsh, not far from Lea bridge, the very spot evidently intended by Dillenius in Ray's Synopsis as "Hackney river near the Ferry-house," which house still exists, though there has been no ferry since Lea bridge was built. Mr. Forster therefore presumes it to be the *M. verticillata* of the Synopsis. We have certainly determined it by the herbarium of Linnæus to be his *sativa*, though the synonyms in *Sp. Pl.* may possibly both be wrong. It is found flowering in August and September.

Root creeping, and throwing out long creeping horizontal shoots, as well as one erect square hairy stem, furnished all the way up to the flowering part with opposite shortish axillary leafy branches. Leaves on winged foot-stalks (the base of the leaf running down them) ovate, rather pointed, sharply serrated from near the base, veiny, clothed on both sides with short scattered hairs, and paler beneath. Flowers in axillary clusters from many of the uppermost leaves, forming whorles, and each cluster is more or less pedunculated. General and partial flower-stalks thickly covered (especially the summit of the latter just under the calyx) with white hairs pointing downwards like those on the stem, but the calyx itself is clothed all over with hairs which point upwards, just as in *M. hirsuta;* by which it may be easily known from every variety of *M. gentilis*, whose flower-stalks are always smooth, and the calyx hairy about the top only. The stamina in our specimens are shorter than the corolla; in those of Linnæus, longer.

However strange it may seem, we have of late had reason to suspect that this plant is a mere verticillate variety of *M. hirsuta.*

448.



March 1798 Published by Jas. Sowerby London

MENTHA gentilis.

Red Mint.

DIDYNAMIA Gymnospermia.

Gen. Char. *Cor.* nearly regular, four-cleft; its breadest segment notched. *Stamina* erect, distant.

Spec. Char. Flowers whorled. Leaves ovato-lanceolate, acute, nearly sessile, scarcely hairy. Flower-stalks perfectly smooth. Teeth of the calyx hairy.

Syn. Mentha gentilis. *Linn. Sp. Pl.* 805. *With.* 524.
M. rubra. *Huds.* 252.
M. fusca sive vulgaris. *Raii Syn.* 232.

FOUND by Mr. B. M. Forster near Walthamstow, and by Mr. Crowe and Dr. Smith in September 1797, on a small common at Saham, Norfolk.

Root creeping. Stems several, erect, growing in tufts, about 18 inches high, with harsh somewhat hairy angles, more or less reddish in the upper part, branched, leafy. Leaves most crowded towards the upper part, nearly sessile, lanceolate inclining to ovate, acute, sharply serrated, veiny, punctured with shining dots, and sprinkled (especially about the margin, and the nerves on the back) with a few short hairs. Their usual scent is much like that of the *M. viridis*, or garden mackerel mint; but nothing is more variable than the smell of mints. We have from Mr. Sole what seems a variety of this, with the delightful scent of basil, to which probably C. Bauhin's synonym belongs. Bracteæ lanceolate, ciliated. Flower-stalks round, red, and always perfectly smooth, as is the lower part of the calyx, the upper part only, on or about the teeth, being fringed or clothed with hairs which point upwards. The pellucid globules on the calyx are very conspicuous. Stamina shorter than the corolla; Style much longer; Germen, as Dr. Withering has well remarked, standing on a fleshy receptacle.

We believe the synonyms above quoted are unquestionable. There is a mint which agrees with this in the calyx and flower-stalk, but grows much taller, with large ovate leaves. This many have taken for the true *M. gentilis*, but Dillenius seems to have confounded it with the *sativa*, by his description of the latter in Ray's Synopsis. We know the plant, and shall carefully investigate it; but in the mean time we venture to establish this now before us as the *gentilis*.

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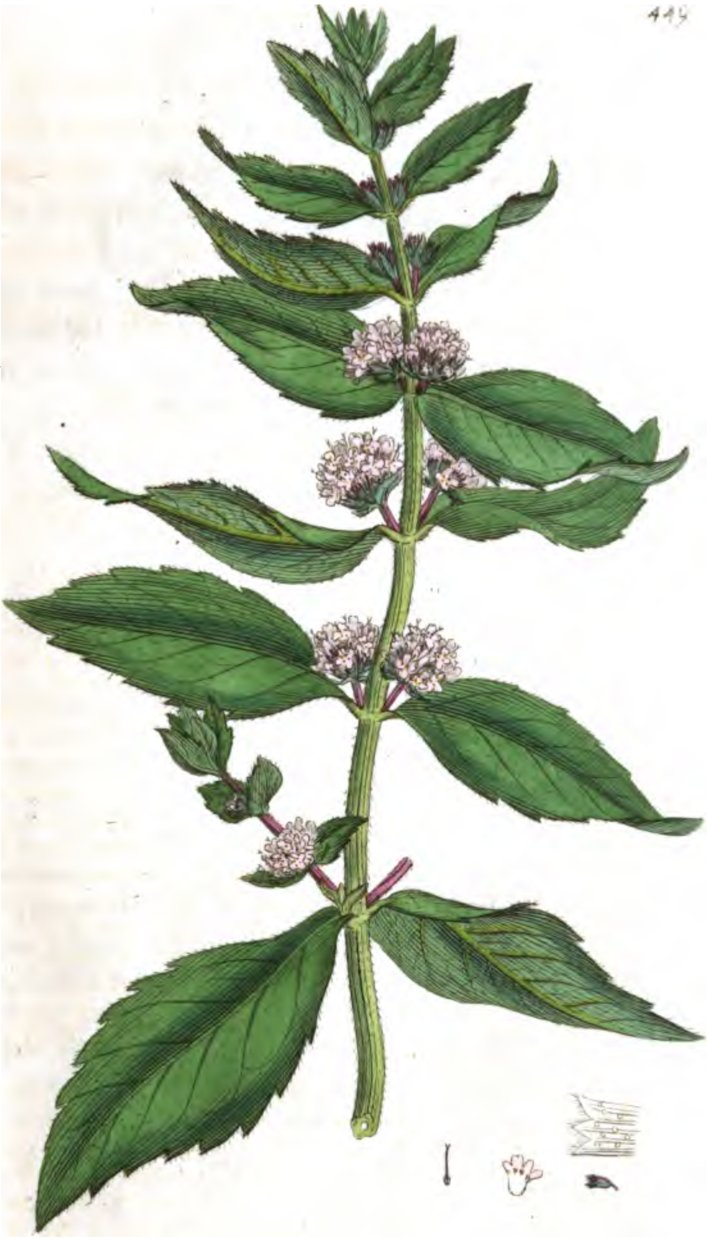

Jan.y 1. 1798 Published by J.s Sowerby London

LICHEN punctatus.

Dotted Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts. Female, smooth shields or turbercles, in which the seeds are imbedded.

Spec. Char. Crustaceous, cracked, greyish white, with a very narrow black edge. Shields minute, very numerous, roundish, black, with a white margin incorporated with the crust.

Syn. Lichen punctatus. *Dicks. Crypt. fasc.* 3. 15. *With. v.* 4. 19. *Flo. Dan. t.* 468. *f.* 2.

OBSERVED on a wall near Ludlow, by Dr. Joseph Babington, in November 1796. Mr. Dickson first found it on rocks in Scotland.

This species forms a thin hard crust of a greyish white, with a narrow black margin; so that when several plants grow together, they are distinguished by a black line. The whole surface is full of little fissures, separating it into small angular portions. In the centre of each of these portions the fructification begins, being at first (according to Dr. Babington's observations) a greenish speck, soon turning grey, then brown red, and finally black. In this last stage, the shields rise out of the crust and often become convex, having a broad white elevated margin, not visible in a young state because incorporated with the crust.— The progress of this little vegetable has not before been noticed. The figure in *Flora Danica* represents it well of its natural size, but wants a magnified portion to make it intelligible.

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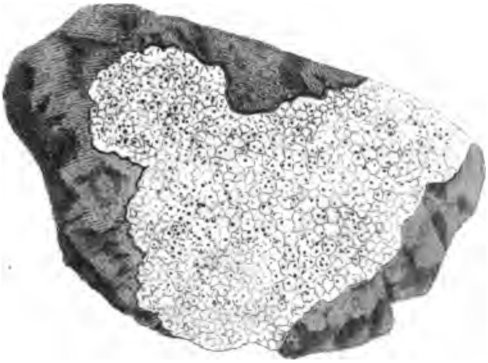
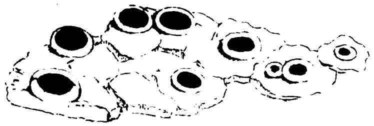
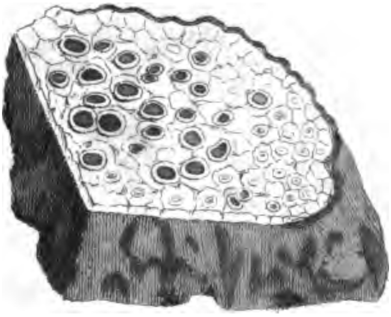






Jan.y 1.st 1798 Published by J.s Sowerby London.

DRYAS octopetala.

Mountain Avens.

ICOSANDRIA Polygynia.

Gen. Char. *Cal.* in 5 to 8 equal segments. *Petals* 5 to 8. *Seeds* with long feathery awns.

Spec. Char. Petals eight. Leaves simple, serrated.

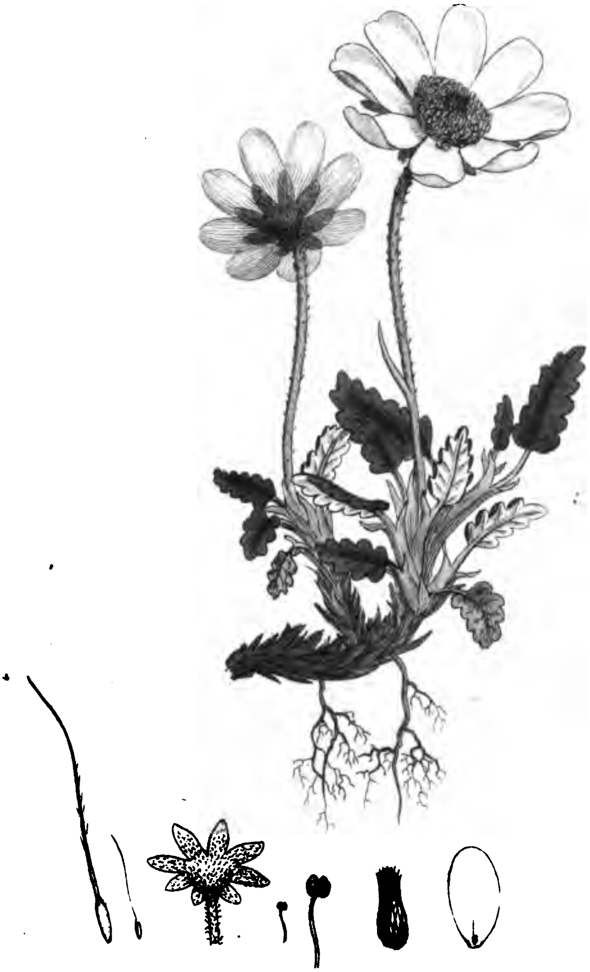
Syn. Dryas octopetala. *Linn. Sp. Pl.* 717. *Huds.* 226. *With.* 478. *Lightf.* 274. *Fl. Dan. t.* 31. *Tour on the Contin. v.* 3. 137.

Caryophyllata Alpina, Chamædryos folio. *Raii Syn.* 253.

THIS most elegant inhabitant of the Alps is found about the tops of several of the highest hills in Britain, and even in the north-west part of Yorkshire (a country rich in wild scenery and botanical rarities), from whence the Rev. Mr. Wood, F.L.S. favoured us with this specimen. We have cultivated the *Dryas* with success under a north wall, on a gravelly soil mixed with loam.

It is perennial and shrubby, though of a very humble size, flowering from the middle of June till the latter part of August, and the beautiful leaves are ever-green. The woody prostrate stems, tangled together, form a thick matted tuft to the extent of several feet; they are smooth, clothed with the remains of withered leaf-stalks. Leaves crowded, on longish woolly foot-stalks, to whose lower part is attached a pair of narrow sharp stipulæ, like those in the neighbouring genera of *Rosa* and *Rubus*. The leaf itself is simple, from half an inch to an inch long, ovate, blunt, with deep, somewhat revolute, serratures; dark shining green above; very white and cottony, with brownish projecting veins beneath. Stalks solitary, simple, rising more than twice as high as the leaves, round, single flowered, downy, and in the upper part the down is intermixed with reddish hooked glandular bristles, as is also the case with the outside of the calyx. Flower large, erect, bearing some resemblance at first sight to the blossom of a Carolina strawberry, but more handsome on account of its eight uniform petals, and the silvery tuft of styles surrounded by numerous yellow antheræ. The styles, after flowering, are lengthened out into feathery awns, each crowning an obovate dry downy seed, standing on the disk of the calyx.

451.



Jany. 1 1798 Published by Js. Sowerby London.

LICHEN hispidus.

Prickly Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Shrubby, solid, much branched, smooth, dark brown; branches divaricated, rather compressed, terminating in numerous spines. Shields with a jagged prickly margin.

Syn. Lichen hispidus. *Lightf.* 883. *With. v.* 4. 43. *Sibth.* 335.
L. islandicus γ. *Huds.* 539.
Lichenoides non tubulosum ramosissimum, fruticuli specie, rufo-nigrescens. *Raii Syn.* 66.
Coralloides fruticuli specie fuscum, spinosum. *Dill. Musc.* 112, *t.* 17. *f.* 31.

A NATIVE of heaths, chiefly in mountainous places, not very uncommon, but the shields are very rarely indeed to be met with. Our specimen was gathered near Beverley, by R. Teesdale, Esq. F.L.S.

Mr. Lightfoot has admirably described this plant in his Flora Scotica, and we think with him it ought not to be confounded with *L. islandicus.* However similar they may be in hue and general appearance, they are different in structure and fructification, not to mention size, which is variable. *L. hispidus* is truly shrubby, round, filled with white spongy pith, not flat nor leafy. Its numerous branches form obtuse angles, and are a little compressed at their divarications, terminating in many small bristly spines. The shields are terminal, horizontal, concave, polished, surrounded with an erect margin of little unequal prickles, sometimes branched and lengthened out. The whole plant is polished and smooth, of a brown or chocolate colour, paler towards the root, the shields and spines darker than the other parts.

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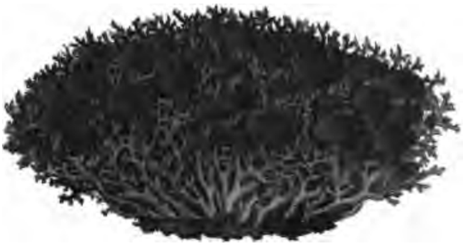
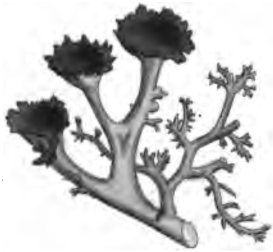




Jan.y 1 1798 Publish'd by J.s Sowerby London.

ADOXA Moschatellina.

Tuberous Moschatell.

OCTANDRIA Tetragynia.

Gen. Char. *Cal.* 2 or 3-cleft, partly inferior. *Cor.* 4 or 5-cleft, superior. *Caps.* of 4 or 5 cells, invested with the calyx.

Spec. Char. . . . . .

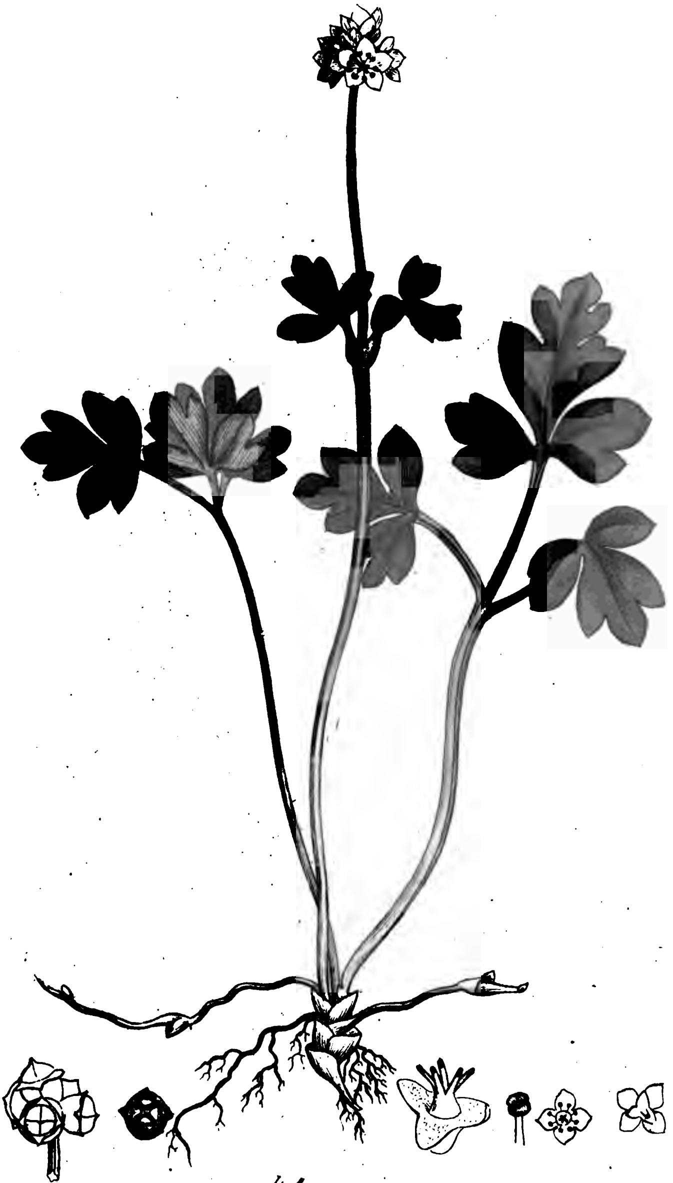
Syn. Adoxa Moschatellina. *Linn. Sp. Pl.* 527. *Huds.* 172. *With.* 386. *Relh.* 163. *Sibth.* 131. *Curt. Lond. fasc.* 2. *t.* 26. *Dicks. H. Sicc. fasc.* 5. 7.

Moschatellina foliis Fumariæ bulbosæ. *Raii Syn.* 267.

NOT unfrequent in groves, thickets and shady lanes, flowering in April or May. The generic name *Adoxa* (inglorious) admirably expresses the modest appearance of this little humble plant, as it emerges from its wintry bed of withered leaves, and, scarcely daring to lift up its head, welcomes the botanist on his first excursions in the spring. When young, and moist with dew, it has a faint musky smell, which gave rise to its original name.

The root is perennial, formed of fleshy white imbricated scales, from whose interstices the fibres are produced, as well as runners which terminate in fresh roots. Herb of a pale green, succulent, smooth, and pellucid. Stem erect, 3 or 4 inches high, angular, bearing two opposite leaves, and a little head of five sessile whitish-green flowers, four of them lateral, one terminal and vertical. The leaves are all ternate, wedge-shaped, and lobed, their segments more or less elliptical, entire. One or two grow from the root on long footstalks; those on the stem are more simple, and on shorter stalks. The lateral flowers have 10 stamina, the corolla in 5 segments, and the calyx in 3, sometimes 4 or 5; but the terminal flower having but 8 stamina, a quadrifid corolla, and generally bifid calyx, made Linnæus (according to a principle of his own) refer the genus to the 8th class. It is allied to *Chrysosplenium*, see our *t.* 54. The styles are 4 in the terminal flower, 5 (rarely 6) in the others. We have never found the ripe fruit. It is described as a capsule of 4 cells, invested with the fleshy calyx, so as to resemble a berry. One of the best descriptions of the *Adoxa* is from Mr. Lyons's Manuscripts, in the *Flora Cantabrigiensis.*

453.



Mar. 1. 1798 Published by J. Sowerby London.

SAXIFRAGA hypnoides.
Mossy Saxifrage, or Ladies' Cushion.

DECANDRIA Digynia.

Gen. Char. *Cal.* 5-cleft. *Petals* 5. *Caps.* with 2 beaks, 1-celled. *Seeds* numerous.

Spec. Char. Leaves linear, undivided or three-cleft. Shoots procumbent. Stem erect, almost naked.

Syn. Saxifraga hypnoides. *Linn. Sp. Pl.* 579. *Huds.* 182. *With.* 407. *Lightf.* 224.
S. muscosa, trifido folio. *Raii Syn.* 354.

TUFTS of this saxifrage often clothe rocks, whose inequalities are filled with black turfy earth, on the mountains of Wales, Scotland, and the North of England. We have gathered it on Ben Lomond, and on Arthur's Seat near Edinburgh. The specimen here represented was sent fresh from North Wales, by J. W. Griffith, Esq. It flowers in May, and often again sparingly in July and August.

Roots fibrous, long and slender, perennial, throwing out many procumbent leafy shoots, which grow matted together, forming thick tufts, and from the common origin of which arises a solitary erect round stem, bearing two or three straggling linear undivided leaves, and terminating in an upright panicle of a few large white flowers. Leaves alternate, linear, acute, pale green, smooth, their edges only often hairy with soft white woolly filaments; the leaves on the shoots simple and undivided; those at the bottom of the stem all deeply three-cleft, but never (we believe) more compound. Bracteæ solitary at each subdivision of the panicle, lanceolate, and (like its branches) clothed with viscid short hairs. Calyx also viscid, its segments acute. Petals lanceolate, approaching to an elliptical form, acute, entire, yellowing at the base, ribbed with three green lines, which are all united for some distance above their origin, and the central one mostly branched near the top. Stamina subulate, five of them rather the shortest. Styles still shorter, nearly erect; Stigmas blunt. This species grows well in gardens in a shady situation. By a careful attention to the above characters it may be known from all other *Saxifragæ*. The S. *ajugifolia* is very like it, but has all the leaves 3 or 5-cleft, as well as more numerous, though much smaller and yellower, flowers, with blunt petals, whose mid-rib is not branched at the top. We should not wonder if this should prove to have been hitherto overlooked by British botanists, as we find by Mr. Davall has been the case in Switzerland.

The student of natural genera may be amused with tracing the affinity and yet distinction, between this genus, the *Adoxa*, and their connecting link *Chrysosplenium*.

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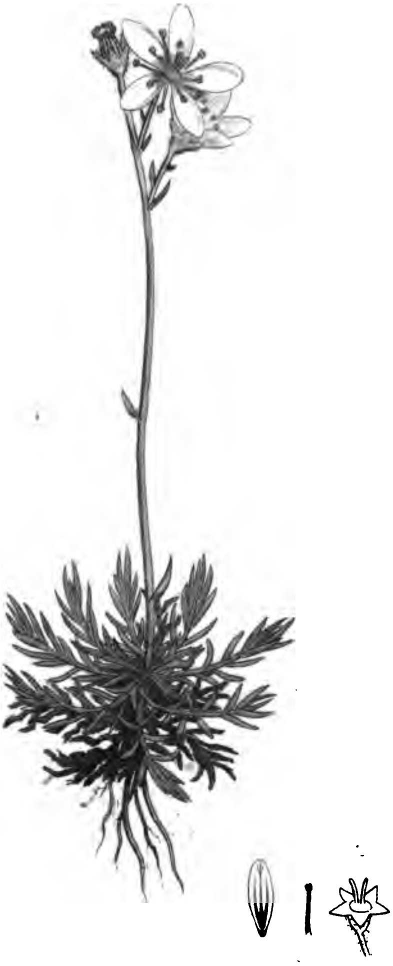

March 1. 1798 Published by J: Sowerby London.

SAXIFRAGA palmata.
Palmate Saxifrage.

DECANDRIA Digynia.

Gen. Char. *Cal.* 5-cleft. *Petals* 5. *Caps.* with 2 beaks, 1-celled. *Seeds* numerous.

Spec. Char. Leaves hairy, palmate: the lower ones in five divisions; upper in three. Shoots ascending. Stem erect, leafy, with a dense panicle of few flowers. Petals roundish.

Syn. Saxifraga petræa. *With.* 890.
S. cæspitosa. *Fl. Dan. t.* 71.

GATHERED wild on the rocks of Cwm Idwell, North Wales, by Mr. Griffith, in the end of May last. The same gentleman also communicated specimens to Dr. Withering, who has inserted this plant at the end of his 3d volume by the name of S. *petræa* of Linnæus and Gouan; a mistake scarcely to be avoided, considering the confusion which envelops the S. *petræa*, and which we could never have removed without the original specimens of Linnæus, Gouan, and Seguier now before us. From them it appears that the true *petræa*, figured by Pona, and sent by Seguier to Linnæus, who first rightly described it in the 10th edition of Systema Naturæ, and then in *Sp. Pl.* ed. 2, is widely different, both from our plant and the variety β of S. *tridactylites* in *Flor. Suec.* It is no less different from Gouan's *petræa*, notwithstanding what he says about comparing it with Seguier's specimens at Nismes; for his is actually S. *adscendens* of Linnæus. We have not room here to illustrate this matter as it deserves. We cannot refer our *palmata* to any species described in Haller, Allioni, Scopoli or Villars, though it comes in some points near the *exarata* of the latter. We have little doubt in quoting the *Flora Danica*, from the figure only; for, as usual, there is not much to be learned from the letter-press of that work. This figure has no resemblance to S. *cæspitosa* of Linnæus.

S. *palmata* has a perennial root, and grows in tufts, composed of numerous radical leaves, from whose centre arises a simple erect flowering-stem, surrounded at the base with several nearly upright, shortish, leafy shoots or branches. All the leaves are palmate, lengthened out at their base, clothed with long white woolly scattered hairs; the radical ones, as well as one or two on the lower part of the stem, are in 5 (rarely 7) segments; those on the stem and side shoots in 3. All the segments are inclined to be elliptical, not linear. Panicle erect, terminal, viscid, dense, composed of 5 to 7 or 8 greenish-white flowers. Bracteæ 3-cleft, or undivided. Segments of the calyx ovate, pointed, hairy and viscid. Petals roundish, a little pointed, with 3 simple nerves united at their base. Styles club-shaped.—The specific character in Dr. Withering, as well as the description from Linnæus, belong to the true S. *petræa*.

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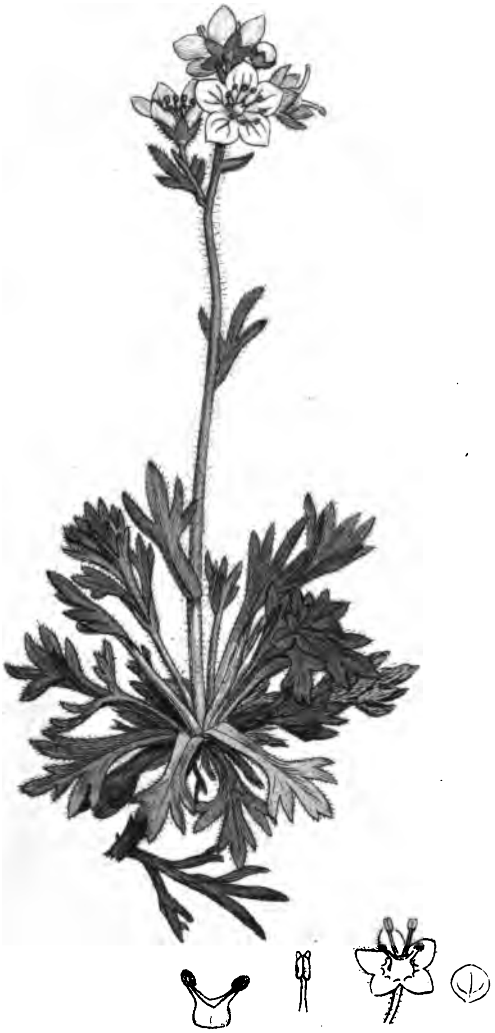


March 1. 1798 Published by J. Sowerby London

VACCINIUM Myrtillus.

Bilberry or Bleaberry.

OCTANDRIA Monogynia.

Gen. Char. *Cor.* of 1 petal. *Filaments* arising from the receptacle. *Berry* inferior, with 4 cells and many seeds.

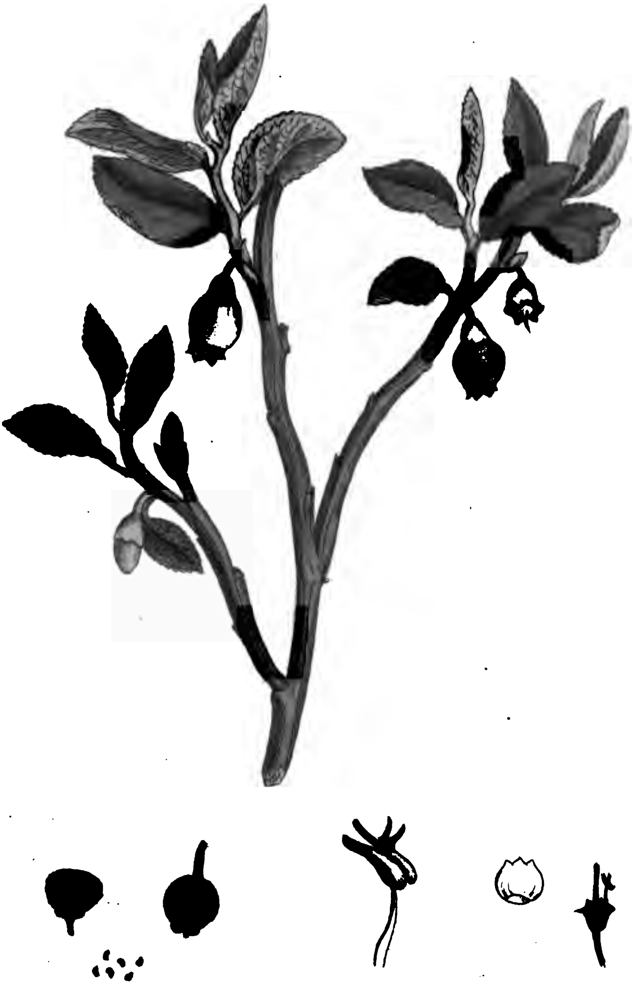
Spec. Char. Flower-stalks single-flowered. Leaves deciduous, serrated, ovate. Stem angular.

Syn. Vaccinium Myrtillus. *Linn. Sp. Pl.* 498. *Huds.* 163. *With.* 370. *Sibth.* 123.
Vitis Idæa angulosa. *Raii Syn.* 457.

GROWS exceeding copiously on heaths and stony moors in the mountainous parts of Great Britain. Porland heath, the highest spot in Norfolk, is we believe the only place it inhabits in that county. About May the young fresh-green leaves, and wax-like red flowers, make an elegant appearance. Towards autumn the leaves grow darker and more firm, and the ripe dark-blue berries are gathered in the north for tarts, and in Devonshire are eaten with the clotted cream prepared in the manner of that country.

Root perennial, woody. Stem shrubby, erect, forming small tufted bushes, branched, smooth, sharply angular, especially the young green branches. Leaves alternate, on short foot-stalks, ovate, serrated, smooth, veiny. Flowers drooping, on short round simple stalks, inodorous, the calyx and corolla each with 5 teeth, and the stamina also generally 10; the numbers 4 or 5 in the two former and 8 or 10 in the latter, being indifferent in this natural order as to the determination of genera or species. The antheræ are cloven, discharging their pollen by a pore in each point, and are besides accompanied by two bristles or horns, as in many *Ericæ*. Style and stigma simple. Berry roundish, with a dimple at the top, of 5 cells before it ripens, but when arrived at maturity the numerous seeds are imbedded in one continued soft acid pulp.

456.



Jan.y 1. 1798 Published by J.s Sowerby London.

PRENANTHES muralis.

Ivy-leaved Lettuce.

SYNGENESIA Polygamia-æqualis.

Gen. Char. *Recept.* naked. *Calyx* double. *Down* simple, nearly sessile. *Florets* in a single row.

Spec. Char. Florets five. Leaves runcinate.

Syn. Prenanthes muralis. *Linn. Sp. Pl.* 1121. *Huds.* 338. *With.* 678. *Relh.* 293. *Sibth.* 238. *Curt. Lond. fasc.* 5. *t.* 58.

Lactuca sylvestris murorum flore luteo. *Raii Syn.* 162.

AUTHORS generally mention this as rather a rare plant. Its proper station is in woods on a chalky soil, but it also occurs on the tops of walls, growing in the mortar, especially on the north side or under the shade of trees. The Rev. Mr. Hemsted gathered this specimen on Chippenham Park wall, Cambridgeshire, in July last. It grows in Bishopgate-street, Norwich.

Root perennial, of several long fibres. Whole herb tender and brittle, smooth, milky when broken. Stem a foot high, erect, simple, round, purplish, leafy; zigzag and panicled at the top. Leaves runcinate, that is, pinnatifid with sharp lobes pointing backwards, toothed, veiny, darkish green; often purplish beneath; the radical ones on footstalks; the rest alternate, embracing the stem. Panicle much branched, divaricated. Bracteæ small, ovate, acute. Calyx slender, purplish. Florets 5 only, in a simple row, by which this is at once distinguished from every other native syngenesious plant. Seed obovate, striated, black.

It varies with entire leaves on the stem, as remarked by Dr. Withering.

The leaves much resemble those of some varieties of the Sowthistle, with which also the plant agrees in sensible qualities. We know not of its being applied to any use.

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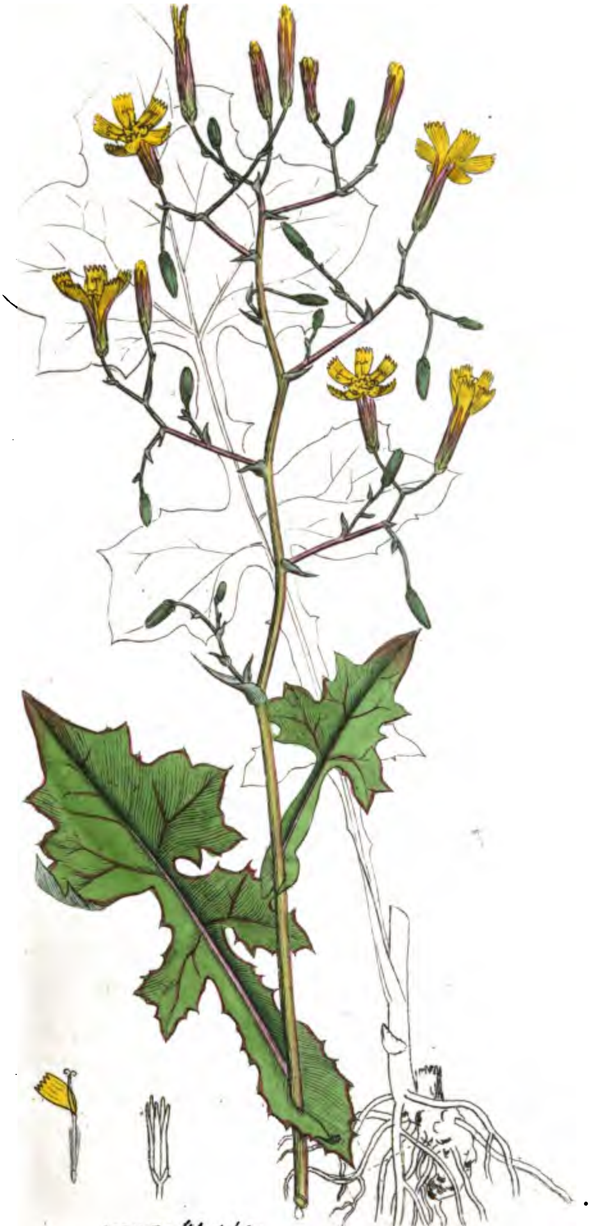


March 1. 1798 Published by J. Sowerby London.

CHIRONIA pulchella.

Dwarf Branched Centaury.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* salver-shaped. *Stamina* inserted into the tube. *Antheræ* becoming spiral. *Style* declining. *Seed-vessel* of two inflexed valves.

SPEC. CHAR. Stem herbaceous, much branched all the way up. Leaves ovate. Calyx-teeth awl-shaped, above half as long as the tube. Flowers on stalks.

SYN. Chironia pulchella. *Swartz in Stockholm Trans. for* 1783, *p.* 85. *t.* 3. *f.* 8, 9. *With.* 255.

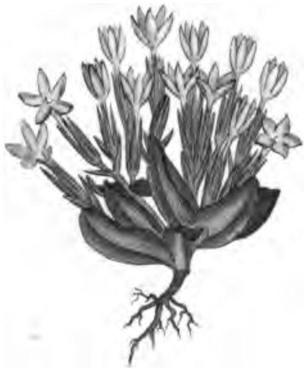
Gentiana Centaurium β. *Linn. Sp. Pl.* 333. *With.* 255.

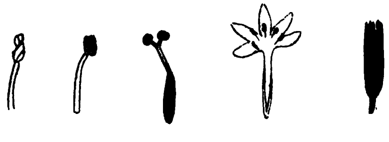
Centaurium minus, palustre, ramosissimum, flore purpureo. *Vaill. Paris.* 32. *t.* 6. *f.* 1.

SENT from Gorlestone Norfolk, near the sea, by D. Turner, Esq. where it was first found by Robert Stone, Esq. a gentleman to whom the botany of Norfolk and Suffolk is much indebted. Dr. Withering received it from Cornwall. It appears to be annual, flowering in September.

Root small, branching. Stem very much branched from the bottom, forming a low bushy herb very various as to luxuriance, forked, smooth, with 4 sharp edges. Leaves ovate; the lower ones very broad; those which accompany the upper flowers lanceolate. Flowers not sessile as in *C. Centaurium*, t. 417, but on shortish stalks, from each divarication of the stem, erect. Calyx deeply divided into 5 narrow awl-shaped segments, more than half as long as the tube of the corolla, which is extremely slender and membranous; the limb is of a full pink, more delicate and narrow than that of *C. Centaurium.* Neither do the antheræ twist so much in ripening as those of that species, making scarcely one turn. In the germen, style, &c. we have found no great difference. Our figure of the *Centaurium* represents the stigmas closed, and partly fading; in that of the *pulchella* we have drawn them spreading, as before impregnation. Capsule long, cylindrical, invested with the corolla. Seeds very numerous.

We are certain from the specimen communicated by Rosen to Linnæus that this is his *Gentiana Centaurium var.* β, and we are equally certain from Dr. Swartz's original specimen that it is his *G. pulchella*, though he describes his with a simple stem and solitary flower, having met with it only in a starved state. The characters above given seem to make it distinct from *Centaurium*, though both species vary so much in luxuriance that they sometimes approach very near each other in that respect. The Linnæan Herbarium has a Swedish plant referred to *Centaurium*, in which the calyx is longer than the tube, leaves narrow, spatulate, and the stem unbranched. We suspect it must be different from both the above, but have not observed it in England.





March 1 1798 Published by J. Sowerby London

PHALARIS phleoides.

Cat's-tail Canary-grass.

TRIANDRIA Digynia.

Gen. Char. *Cal.* of 2 carinated equal valves, longer than the corolla, single flowered.

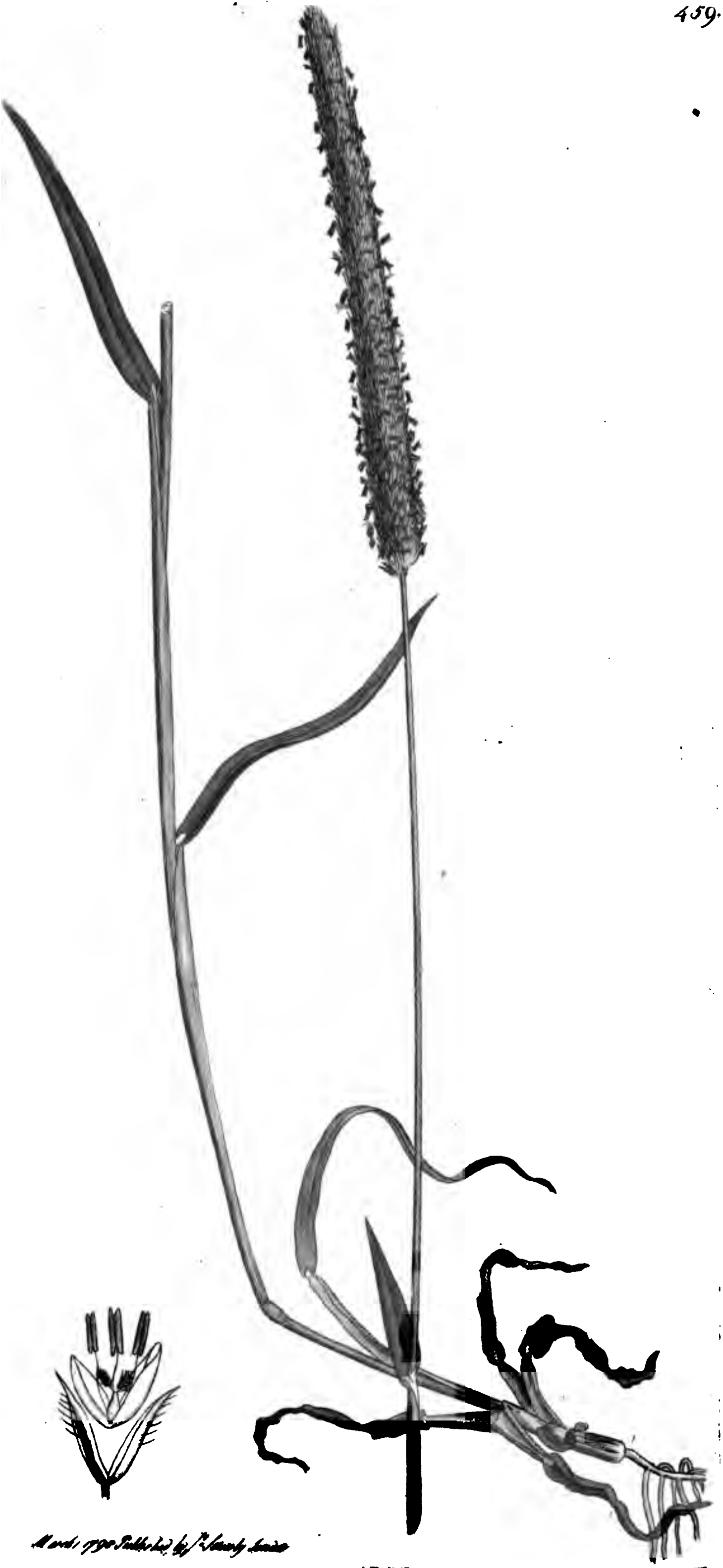
Spec. Char. Panicle nearly cylindrical, in the form of a spike. Glumes linear-lanceolate, smoothish, their inner margin abrupt. Stem simple.

Syn. Phalaris phleoides. *Linn. Sp. Pl.* 80. *With.* 114. *Fl. Dan. t.* 531.

Gramen typhinum, spicâ conoide striatâ, culmo violaceo. *Barrel. Ic. t.* 21.

A NATIVE of high sandy countries, found by Mr. Crowe and Mr. Woodward on Swaffham heath in 1780; but it appears from the Banksian Herbarium that the late Mr. Lyons had previously gathered it in Cambridgeshire, though the two gentlemen above mentioned have the merit of determining it, Mr. Hudson having supposed his *Phleum paniculatum* (a very different grass) to be the *Phalaris phleoides* of Linnæus, which last he probably never saw. The Rev. Mr. Hemsted gathered this specimen on Chippenham Park wall, Cambridgeshire, flowering in July.

Root fibrous, perennial, crowned with tufts of spreading glaucous leaves which endure the winter. Straw simple, generally solitary, most leafy below, round, smooth, purple and shining above, a foot and half high. Leaves sheathing, linear-lanceolate, rough at the edge, their sheaths scarcely inflated, roughish. Panicle terminal, solitary, erect, dense, nearly cylindrical and exactly like a spike, but when bent on one side it separates into lobes or branches of several flowers each. Calyx nearly linear, somewhat constricted near the top, purplish; the valves linear-lanceolate, compressed, pointed, 3-nerved, a little divaricated at the point, and furnished with a white membranous margin, which at its summit is in some degree abrupt, approaching to the structure of a *Phleum*; but this species cannot be considered as such, on account of its strict affinity to *Phalaris arenaria*, see our *t.* 222, from which it differs however, as a species, in having a perennial root, a branched or panicled spike, glumes less frequently and completely ciliated, and lanceolate (not abrupt or crenate) petals.——We regret that we have not yet been able to obtain a wild specimen of *Phleum paniculatum*, that it might have been published at the same time with this.



March 1, 1798 Publish'd by J. Sowerby London

PHASCUM serratum.

Serrated Phascum.

CRYPTOGAMIA Musci.

Gen. Char. *Capsule* ovate, without any separate lid. *Veil* minute, deciduous.

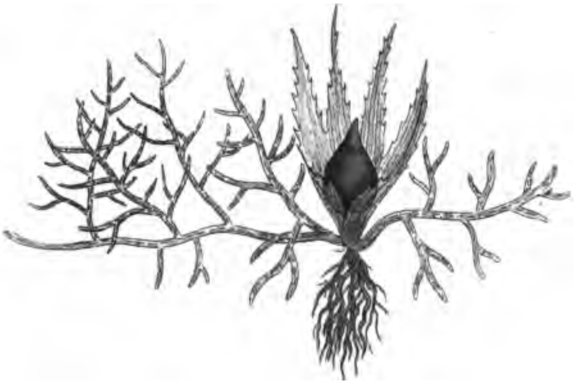
Spec. Char. Shoots capillary, jointed, branched. Capsule surrounded with lanceolate serrated leaves rising above it.

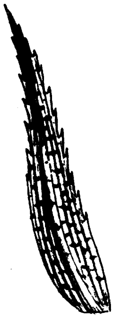
Syn. Phascum serratum. *Dicks. Crypt. fasc.* 1. *t* 1. *f.* 1. *With.* 785.

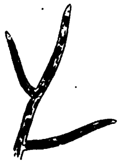
THIS minute vegetable, hardly visible to the naked eye, was first discovered in England by Mr. Dickson, on the north side of Muswell-hill near Highgate. Our specimens were gathered in Cambridgeshire, by the Rev. Mr. Hemsted, in March last.

It forms tufts of pellucid green jointed filaments, very much resembling a *Byssus* at first sight, but, when highly magnified, as in our figure, assuming the appearance of a *Conferva*. From the common origin of these filaments, near the crown of the little root arise about four erect lanceolate reticulated and serrated pellucid leaves, enveloping an almost sessile ovate brown capsule, tapering to a palish point, but without any separating cover or lid. The veil, which Mr. Dickson mentions not having seen, is small, oblique and sharply pointed.

At page 330 of this work we have been led by Linnæus into an error concerning the generic character of *Phascum*, which is here corrected.







March 1. 1798 Published by Jas. Sowerby London.

TREMELLA Nostoc.

Ground Tremella.

CRYPTOGAMIA Algæ.

Gen. Char. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

Spec. Char. Sessile, roundish, plaited, waved, of an olive green.

Syn. Tremella Nostoc. *Linn. Sp. Pl.* 1625. *Huds.* 564. *With. v.* 4. 80. *Relh.* 441. *Sibth.* 390.
Ulva terrestris pinguis et fugax. *Raii Syn.* 64.

THE right honourable Lady Arden, in her researches for *Fungi*, met with this fine specimen of the *Tremella Nostoc*, which is not indeed an uncommon plant in pastures, or on gravel walks, after rainy weather, at various seasons of the year, though seldom so large as is here represented. It grows very slightly attached to the ground, of a tender gelatinous substance, forming a variously convoluted waved and inflated leaf, of a dull or olive green, quite smooth. On the return of dry weather, it suddenly dries up, becomes black and brittle, and diminishes so much in size as to be easily overlooked. Its fructification has not, to our knowledge, been observed; but there is every reason to suppose it is propagated by seeds, which must be lodged in the gelatinous substance. The generic character therefore between this vegetable and the *Ulvæ* is by no means clear. The latter indeed are more membranous, and for the most part of marine origin; but we are not yet furnished with satisfactory characters to discriminate them from this and some other *Tremellæ*. Ray and Dillenius make this an *Ulva*.

This singular production has given rise to many strange ideas. The vulgar suppose it the remains of a fallen star, or of a Will-of-the-Wisp. Some Italian philosophers have mistaken it for a gelatinous substance which is nothing more than the remains of frozen frogs, as Dr. Withering has very satisfactorily shewn, and thence it was by chemical analysis proved to be an animal! Others have made a similar mistake respecting young aquatic snails. See *Tour on the Continent*, *ed.* 2. *v.* 3. 158.

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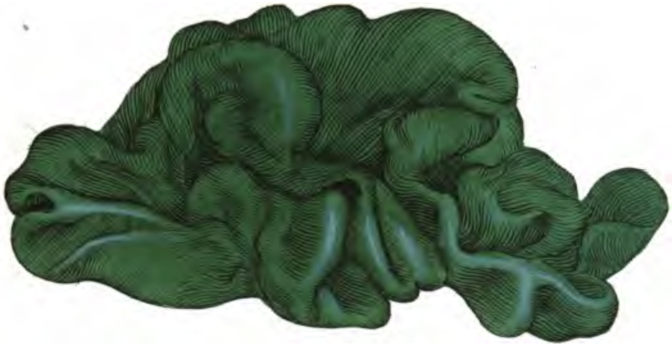

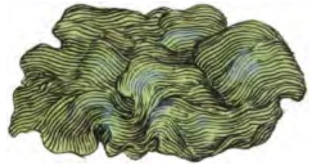

March 1. 1790 Published by Js. Sowerby London.

CHEIRANTHUS sinuatus.

Sea Stock.

TETRADYNAMIA Siliquosa.

Gen. Char. *Germen* with a glandular tooth on each side. *Calyx* closed; 2 of its leaves gibbous at the base. *Seeds* flat.

Spec. Char. Leaves downy, blunt, sinuated; those on the branches entire. Pods prickly.

Syn. Cheiranthus sinuatus. *Linn. Sp. Pl.* 926. *Huds.* 288. *With.* 586.

Leucojum marinum majus. *Raii Syn.* 291.

THIS fine plant is a native of the sandy sea-shores of Wales and Cornwall, and was sent us from Pembroke by John Adams, Esq. F. L. S. flowering in August. It is well worthy of cultivation in a garden, the flowers being very conspicuous and ornamental, and highly fragrant in an evening. It is easily propagated by seed, and the root is biennial.

Whole herb clothed with hoary stellated intricate down. Stem 2 feet high, branching, round, leafy. Leaves a little succulent, alternate, oblong, blunt, with 2 or 3 large indentations on each side; the upper ones however are entire. Flowers in terminal *corymbi* afterwards lengthened out into spikes, of a reddish lilac or purple colour, much resembling those of the garden stock, but not fragrant by day. Calyx compressed, purplish, hoary. Petals with a long white claw. Two of the stamina very short, Stigma with 4 notches. Germen very downy. Pods long, of two cells, compressed, hoary, and sprinkled with glandular prickles, such as are found more sparingly on the leaves. Seeds numerous, flat, with a membranous border. The whole plant has a strong alkaline bitterish flavour. Mr. Hudson, in his first edition, mistook this for the *C. tricuspidatus* of Linnæus, a species which much resembles ours, but is remarkable for 3 large projecting points which terminate the pod.

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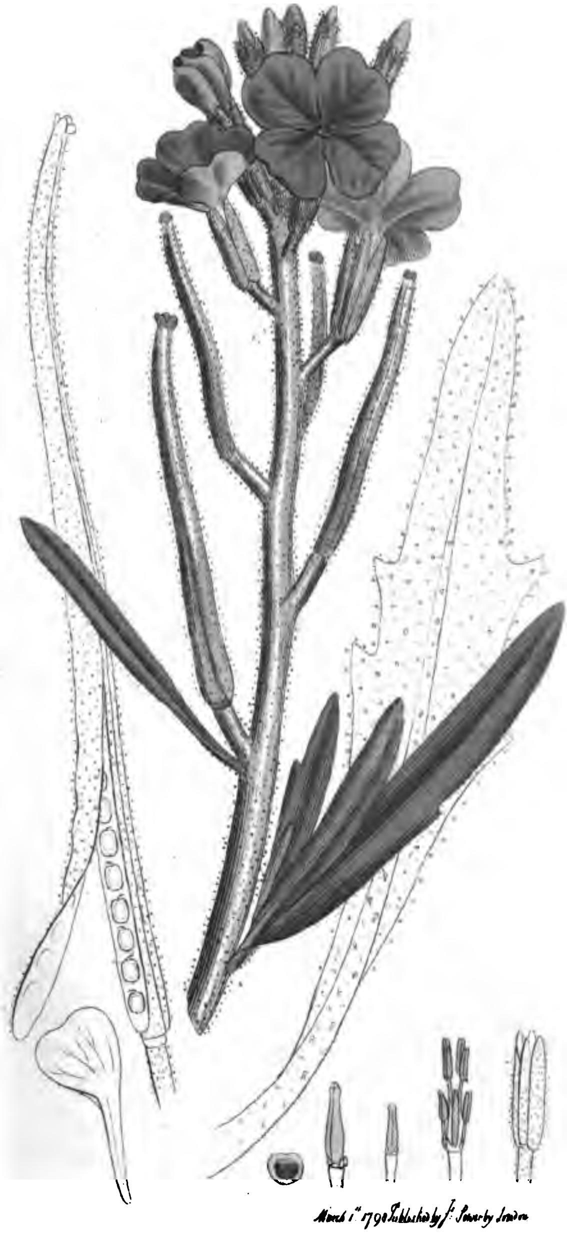


March 1st 1798 Published by J: Sowerby London

CHARA hispida.

Prickly Chara.

MONANDRIA Monogynia.

Gen. Char. *Cal.* none. *Cor.* none. *Anthera* sessile. *Style* none. *Berry* with many seeds.

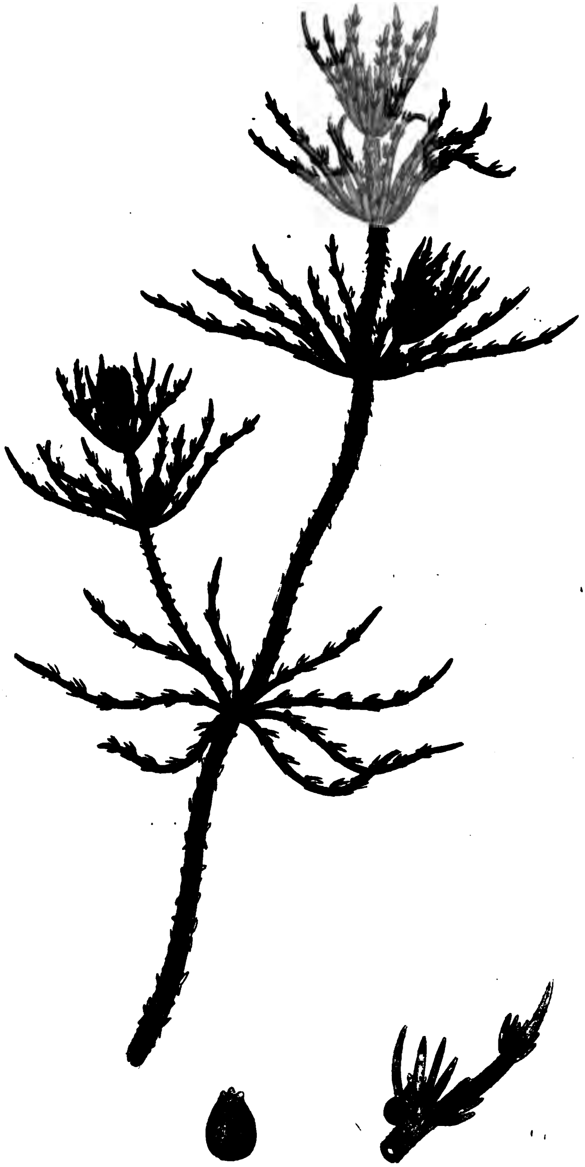
Spec. Char. Prickles on the stem bristly, in clusters.

Syn. Chara hispida. *Linn. Sp. Pl.* 1624. *Huds.* 398. *With.* 3. *Relh.* 345.

C. major, caulibus spinosis. *Raii Syn.* 132.

We are obliged for this specimen to Mr. William Skrimshire of Wisbeach, who gathered it in a clay-pit near that place. This plant varies in size, but most commonly resembles in habit the *Chara vulgaris*, *t.* 336, differing from that species chiefly in having the stem covered more or less uniformly with clusters of short bristly prickles, especially in the upper part, and those prickles are often bent downwards. The leaves also bear similar clusters on their upper side, with a solitary flower accompanying each. The parts of fructification very much agree with those of *C. vulgaris*, of which we are inclined to think this a variety. However that may be, both these plants are generally clothed with a fine earthy crust, expressed in our *t.* 336, but the present specimen was destitute of it. This crust is commonly supposed to belong to the plant; but having observed it, in some waters, on all kinds of plants that grow under the surface, and in others on but few kinds, or not on any one, we conceive it to consist merely of calcareous earth deposited from the water, the acid which had dissolved and suspended it having been perhaps absorbed by the plant, either in respiration or otherwise. This circumstance merits farther enquiry.

463.



March 1. 1798 Published by Jas Sowerby London.

ERIGERON alpinum.

Alpine Flea-bane.

SYNGENESIA Polygamia-superflua.

Gen. Char. *Recept.* naked. *Seed-down* simple. *Florets* of the radius linear, very narrow.

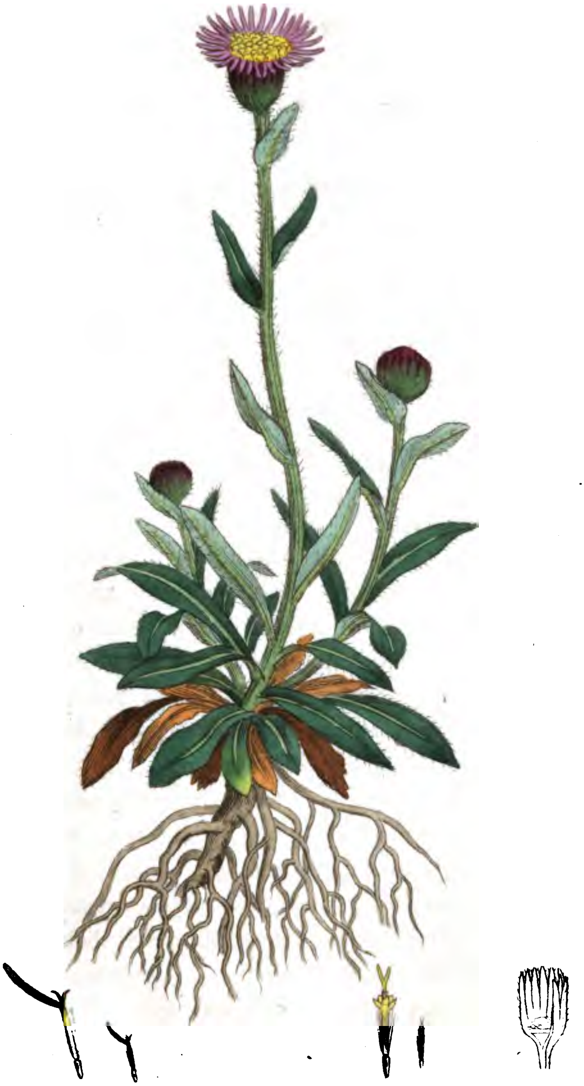
Spec. Char. Stems almost single-flowered. Calyx slightly hairy.

Syn. Erigeron alpinum. *Linn. Sp. Pl.* 1211. *Dicks. in Linn. Trans. V.* 2. 288. *With.* 718. *Fl. Dan. t.* 292.

FIRST discovered by Mr. Dickson upon moist rocks of the mountain Ben Lawers in Scotland. Our specimen was sent by Mr. Mackay. It is perennial, and flowers in July.

The root consists of many long simple round fibres. Stems several, erect, leafy, angular and rather hairy, naturally simple, and bearing one or, at most, two flowers; but in a luxuriant soil, or when by accident broken, they shoot out into many single-flowered branches. Leaves spatulate, ribbed, hairy; those on the stem alternate, sessile, and dilated at their base. Flower erect. Calyx of numerous linear upright leaves, slightly hairy, often reddish. Central florets very numerous, tubular, yellowish, hermaphrodite, but with the thickened stigma that according to Dr. Stokes indicates barrenness; a point we have no means of ascertaining. The seeds of these florets however look as if perfect. Florets of the radius numerous, ligulate, very narrow, spreading, pale purple, furnished with a style and slender stigmas, no stamina. Seeds of all the florets hairy. Seed-down turning reddish, and, when very highly magnified, rough. Receptacle naked, marked with minute depressions.

Like most alpine plants, this varies very much in size according to soil and situation. The *E. uniflorum*, if distinct, is to be known from it chiefly by the calyx being woolly, or clothed with long thick-set white hairs.



May 1. 1798 Published by Js. Sowerby London

SILENE nutans.

Nottingham Catch-fly.

DECANDRIA Trigynia.

Gen. Char. *Cal.* swelling. *Petals* 5, with claws. and with a crown at the mouth. *Caps.* three-celled.

Spec. Char. Petals cloven. Lateral flowers drooping, all towards one side. Panicle drooping.

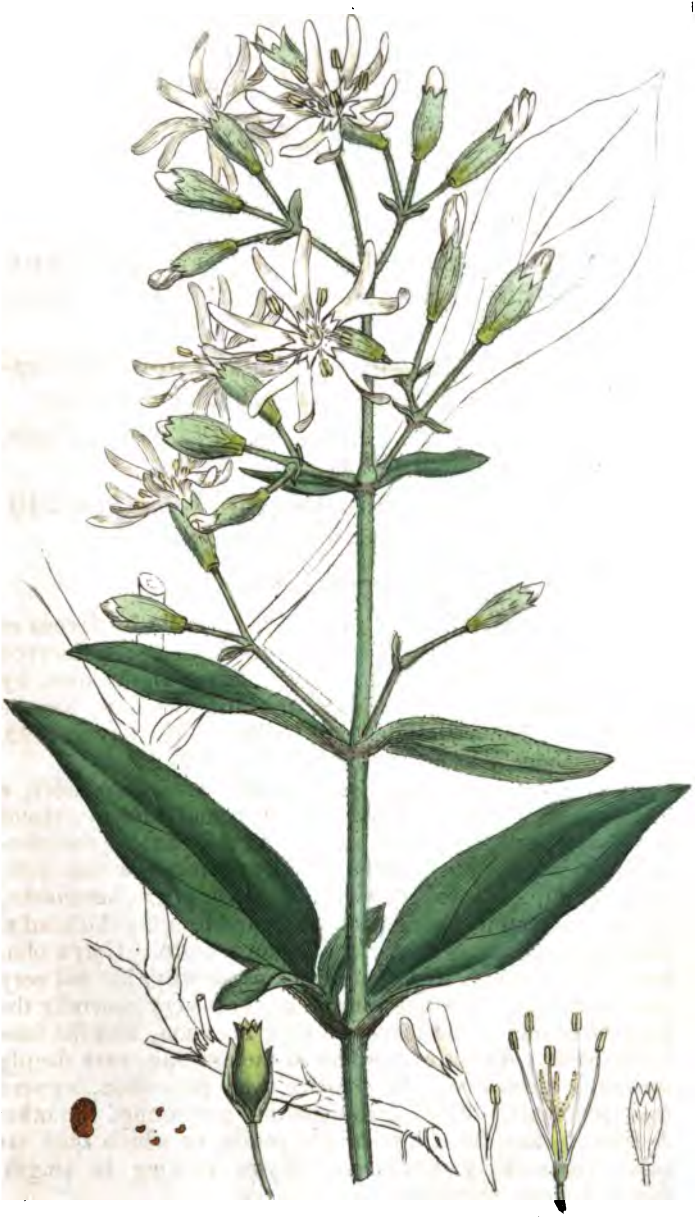
Syn. Silene nutans. *Linn. Sp. Pl.* 596. *Huds.* 188. *With.* 413. *Fl. Dan. t.* 242.

Lychnis sylvestris alba 9 Clusii. *Raii Syn.* 340. *Ger. em.* 470. *Deering Nott.* 137.

We received this from Nottingham Castle by favour of Mr. Ordoyno. It loves a limestone soil, and was observed upon rocks in the bed of the river Dove, Derbyshire, by Mr. Woodward; and near North Queen's-ferry, for the first time we believe in Scotland, by Mr. J. Mackay in 1793. It is perennial, and flowers in June and July.

Stems several, simple, bowed at the base, then erect, a foot or more in height, leafy, jointed, round, downy, viscid in the upper part, terminating in a forked panicle, the summit and branches of which all droop towards one side. Leaves entire, pointed, downy, of a palish green, lanceolate; the radical ones inclining to obovate, and forming thick tufts. Flowers nodding, white, of a delicate texture. Calyx obovate, membranous, with ten green ribs, downy, but not very remarkably so, sometimes purplish, as are very generally the long footstalks of the leaves at their insertion, and the base of the stem. Petals expanding in the evening, very deeply cloven, crowned with a sharp cloven projection between their segments. Five of the stamina projecting, the other 5 shorter than the claws of the petals, to which they are more particularly attached. Styles varying in length. Seeds rugged, numerous.

The Dover Catchfly, *Raii Syn.* 340. 12, so long mistaken for Cucubalus viscosus *Linn.*, has of late been referred to this species of Silene; but we have reason to think it *S. paradoxa*. On this point however we do not absolutely decide till we can obtain fresh wild specimens from Dover.



May 1. 1798 Publish'd by J. Sowerby London.

ASTRAGALUS uralensis.

Hairy Mountain Milkwort.

DIADELPHIA Decandria.

Gen. Char. *Pod* of two cells, swelling.

Spec. Char. Stem none. Stalk upright, longer than the leaves. Pods oblong, hairy, erect.

Syn. Astragalus uralensis. *Linn. Sp. Pl.* 1071. *Huds.* 323. *With.* 644. *Lightf.* 401. *t.* 17.

THIS has been found, chiefly in a sandy soil, on various mountains of Scotland; it was sent by the late Dr. Hope to Linnæus, and we have received it from Mr. Mackay and Mr. Bruce.

The root is strong, woody and perennial, dividing at the crown into several leafy tufts. Leaves all radical, spreading, pinnate; leaflets sessile, generally opposite, the lowermost often more remote and sometimes alternate, the terminal one generally smaller than the rest; all of them are ovate, sometimes lanceolate, entire, acute, a little concave above, clothed all over, but especially beneath, with silky hairiness, as is the common footstalk likewise, which is often more permanent than the leaflets, hardening into a sort of spine. It has a pair of broad membranous stipulæ at the base. Stalk simple, hairy, upright, a little longer than the leaves, bearing a short simple spike (erroneously represented branched in Lightfoot's figure) of handsome purple flowers, whose calyx is clothed with a mixture of black and white hairs. Bracteæ lanceolate, hairy. Pods erect, inflated, cylindrical, rather more than half an inch long, terminating in a sharp oblique point, thickly clothed with brown close-pressed hairs. It flowers in July.

Copious wild specimens of this plant from Mr. Bruce, as well as those of Dr. Hope, being compared with the two original Siberian ones of Linnæus, leave not the least doubt of its being his *A. uralensis*, though his are more luxuriant than ours, as also those described in the *Hortus Upsaliensis*, copied by Dr. Withering, appear to have been. Hence arose some uncertainty respecting the identity of the Scotch *Astragalus*, which we are happy to remove. A Swiss specimen from Mr. Davall proves it also to be the No. 410 of Haller, as quoted by all authors.

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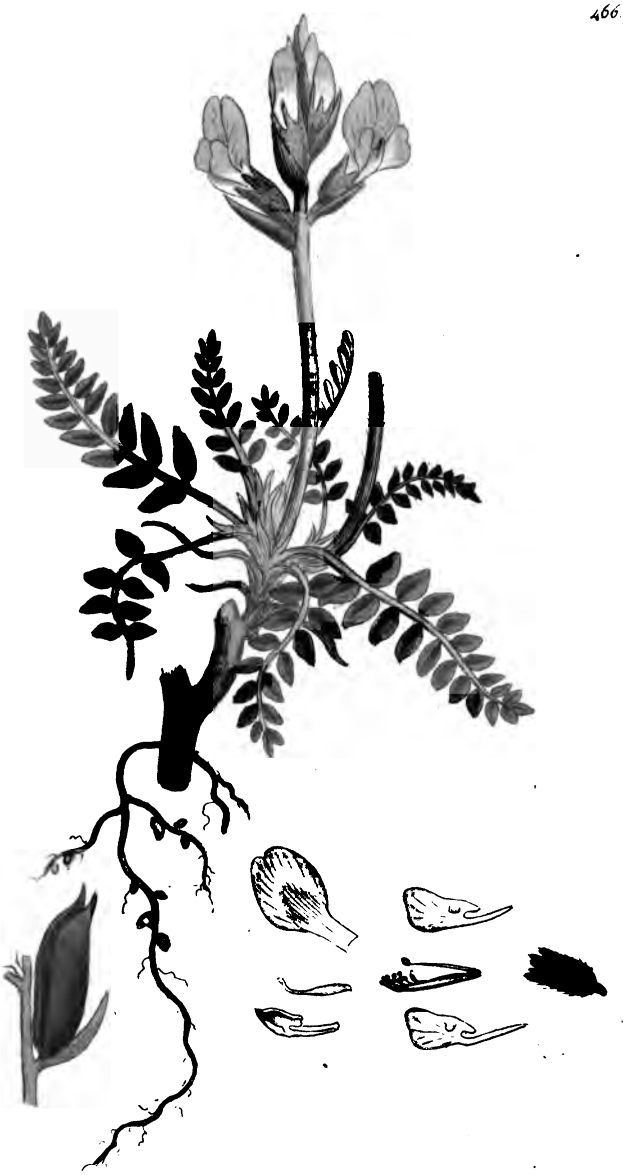


— May 1 1790 Published by J. Sowerby London.

ZOSTERA marina.

Common Grass-wrack.

MONANDRIA Monogynia.

Gen. Char. *Spadix* linear, sheathed by the base of the leaf, bearing the fructifications on one side, in two ranks. *Cal.* and *Cor.* none. *Anthera* sessile. *Stigmas* two, linear. *Capsule* with one seed.

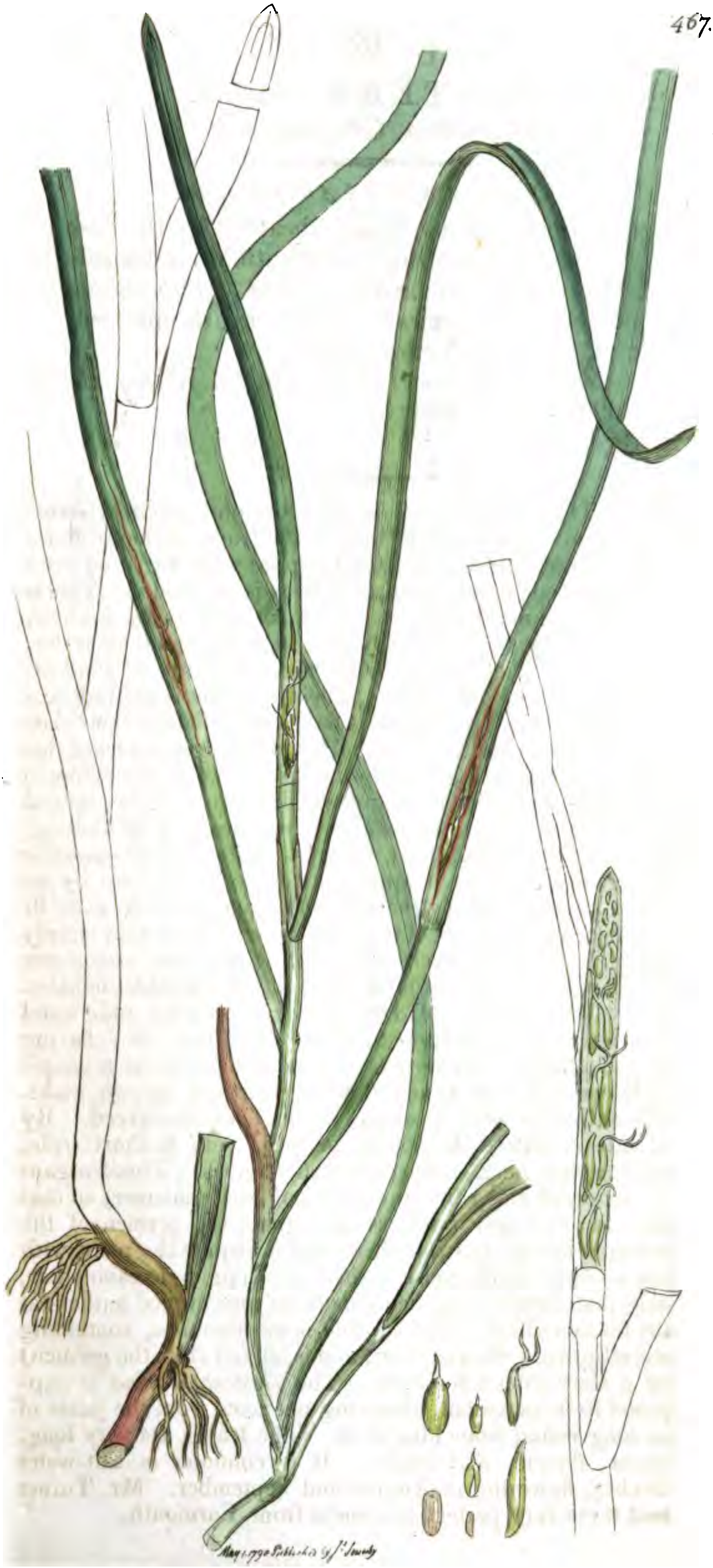
Spec. Char. Capsules sessile.

Syn. Zostera marina. *Linn. Sp. Pl.* 1374. *Huds.* 395. *With.* 496.

Alga. *Raii Syn.* 52.

NOTHING can be more desirable to a philosophical botanist, than to acquire a right idea of the fructification of those plants whose peculiar situations require some variation from the usual mode in which impregnation is performed. This is the case with many aquatics, and among others the *Zostera*, whose flowers are completely protected from the salt water, under which they grow, by the sheathing base of the leaf, which closely enfolds them. Their structure is in other respects so peculiar, that botanists have differed about their class in the Linnæan system. The author of that system placed this genus in *Gynandria*, considering its *spadix* as the common receptacle of one flower, composed of many *antheræ*, ranged alternately with many *pistilla.* Thunberg and Withering, abolishing that class, have referred *Zostera* to *Polyandria Polygynia.* To us it appears that the flowers are by no means gynandrous, as the *stamina* cannot in any sense be understood to grow out of the *pistilla*; neither are they simply polyandrous, as in every such flower the male organs are invariably collected around the central collected females. Nor will the analogy of *Arum*, however we may understand that flower, at all help us to comprehend this, they having no real affinity. *Zostera* is easiest understood as a simple unilateral spike of naked flowers, disposed in two ranks. The anthera of each is sessile, oblong, a little curved. By its side is affixed an oblong germen, with a short style, bearing two long, linear, pointed stigmas. These organs are arranged along the spike in an alternate manner, so that each anthera may perhaps impregnate the germen of the flower below it; nor should we much dispute the point with any one who might consider them as belonging to each other, only that there would then remain an unoccupied anthera at the bottom of all. The capsule is membranous, containing one elliptical yellowish seed, and is affixed (like the germen) by a short lateral footstalk.—The *Zostera marina* is supposed to be perennial, throwing out roots from the joints of its long round branching stem. The leaves are very long, linear, flaccid, and tender. It is common in salt-water ditches, flowering in August and September. Mr. Turner sent these very perfect specimens from Yarmouth.

467.



May 1. 1798 Published by J.s Sowerby

CARDAMINE hastulata.

Alpine Ladies-smock.

TETRADYNAMIA Siliquosa.

Gen. Char. *Pod* bursting elastically, the valves turning back. *Stigma* entire. *Cal.* a little spreading. One *Gland* on each side, between the shorter stamina and the calyx.

Spec. Char. Radical leaves hastate or lyrate; stem-leaves lanceolate, entire.

Syn. Cardamine petræa. *Lightf.* 347. *t.* 15. *f.* 2.

SENT by Mr. Mackay from Scotland, where it grows in alpine situations upon moist rocks and about rivulets, flowering in July.

Root perennial, long, and somewhat woody, branching at the summit, and crowned by several tufts of spreading leaves, which are small, slightly succulent, halbert-shaped, sometimes (having two small additional lobes towards the base) becoming lyrate; the lobes are mostly entire, scarcely ever toothed. The leaves on the stem, except one or two at the bottom are alternate, lanceolate approaching to elliptical, obtuse, entire, with never more than one solitary notch in any of them, and that rarely. Stem erect, round, smooth, a little branched, bearing spiked clusters of pedunculated flowers, rather large in proportion to the plant, white or purplish. Calyx a little spreading, its edges white. Petals spreading, entire. Stigma simple, obtuse. Valves of the pod bursting, from the base and in some degree recurved.

That this is the plant Mr. Lightfoot intended, we know by specimens from himself and Mr. Stuart. His figure indeed is not extremely correct; but his description, which seems to be original, is very good. We have received from Mr. Jacquin, jun. for *C. petræa*, a specimen differing from ours only in having the radical leaves less deeply lobed, and scattered with a few simple white hairs, whereas ours are quite smooth, except that one specimen has a few such hairs on the leaf-stalks. The true Swedish *C. petræa* of Linnæus is however a different plant, with oblong many-toothed smooth leaves, more near to Jacquin's than to ours, so that we have been obliged to choose a new name. Neither dare we quote the Welch plant of Ray, Dillenius, Hudson, and Withering, which upon the most accurate scrutiny we believe to be *Arabis hispida* of Linnæus, by mistake called *Sisymbrium arenosum* in his Flo. Suec. the latter not being a native of Sweden. In this *Arabis* the leaves are lyrate with several lobes, and clothed with forked and branched hairs; the pods burst at the top first, then at the bottom, and the valves do not curl back; so that it is no *Cardamine*. We recommend it to the examination of Welch botanists. We have a specimen of the same (without fructification) gathered in Scotland by a Mr. Lindesay in 1728, evidently different from our *C. hastulata*. *Flo. Dan. t.* 386 seems intended for this *Arabis hispida*.

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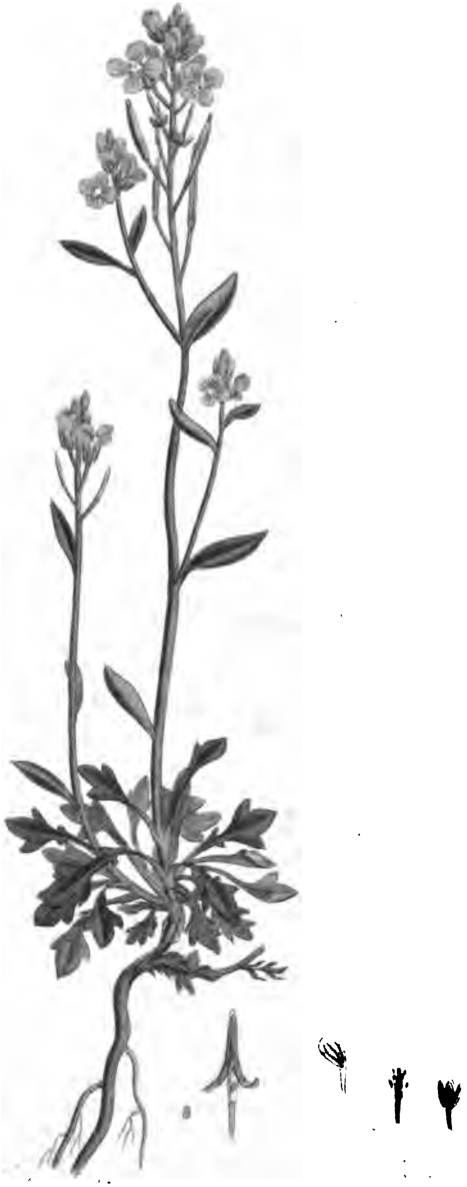


FESTUCA duriuscula.

Hard Fescue-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, with sharp-pointed glumes.

SPEC. CHAR. Panicle pointing one way, oblong, branched. Florets about six, nearly cylindrical, awned. Stem-leaves flat. Root fibrous.

SYN. Festuca duriuscula. *Linn. Sp. Pl.* 108. *Huds.* 44. *With.* 153. *Relh.* 40. *Sibth.* 44.

Gramen pratense, panicula duriore laxa unam partem spectante. *Raii Syn.* 413. *t.* 19. *f.* 1.

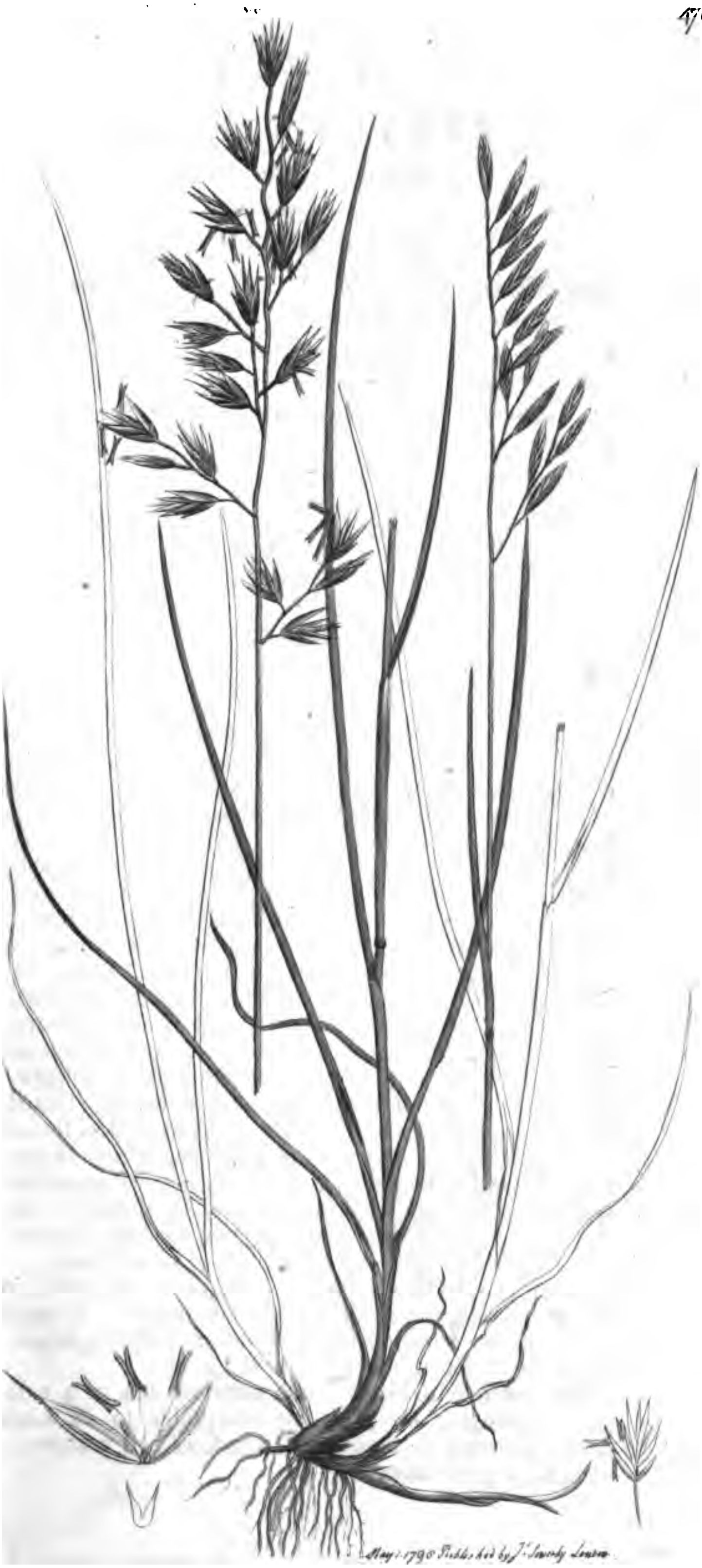
β. Festuca dumetorum. *Linn. Sp. Pl.* 109. *With.* 154.

A COMMON grass every where in pastures, meadows, and waste ground, flowering about midsummer.

Root fibrous, perennial. Herbage of a full darkish green. Straws a foot or more in height, erect, leafy. Leaves upright, roughish: the lower ones slender, rigid, acute, compressed, striated, their base completely sheathing the straw, with scarcely any perceptible stipula. Upper leaves broader and flat. Panicle erect, a little zigzag, alternately branched, the branches all leaning one way, the lower ones subdivided and most spreading. Flower-stalks all sharply angular, and rough. Spikelets at first cylindrical, but by the florets spreading they become flattened, often reddish. Calyx of two unequal, carinated, sharp-pointed husks. Florets from 4 to 6, the uppermost generally abortive, all fixed (a little remotely) to an angular zigzag stalk. Outer husk of the corolla strongly awned, the inner one smaller, more delicate and beardless. The angles of both are minutely ciliated, or downy; and sometimes the outer husk, as well as the calyx, is all over clothed with soft pubescence, which makes the character of Linnæus's *F. dumetorum;* nor can we, in his own specimens, find any other mark than this, which is a variable one, to distinguish these two supposed species. Indeed, his specimens of *F. duriuscula* are some of them downy. The swelling in the straw, just above the joints, described in his *F. dumetorum*, seems an accidental disease. What Linnæus calls a *nectarium* in these and most other grasses, is a white cloven membrane close to the germen.

The intelligent Mr. Swayne mentions this as a valuable grass, springing early, being acceptable to all kinds of cattle, growing in most good meadows and pastures, and yielding a good crop.

470.



May 1. 1798 Publish'd by J. Sowerby London

BROMUS erectus.

Upright Brome-grass.

TRIANDRIA Digynia.

Gen. Char. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, 2-ranked. *Awn* from below the top. *Inner husk* fringed.

Spec. Char. Panicle erect, a little branched. Florets numerous, slender. Radical leaves very narrow, fringed with white scattered hairs.

Syn. Bromus erectus. *Huds.* 49. *With.* 160. *Sibth.* 47. *Relh. Suppl.* 2. 8.

B. agrestis. *Allion. Ped. V.* 2. 249.

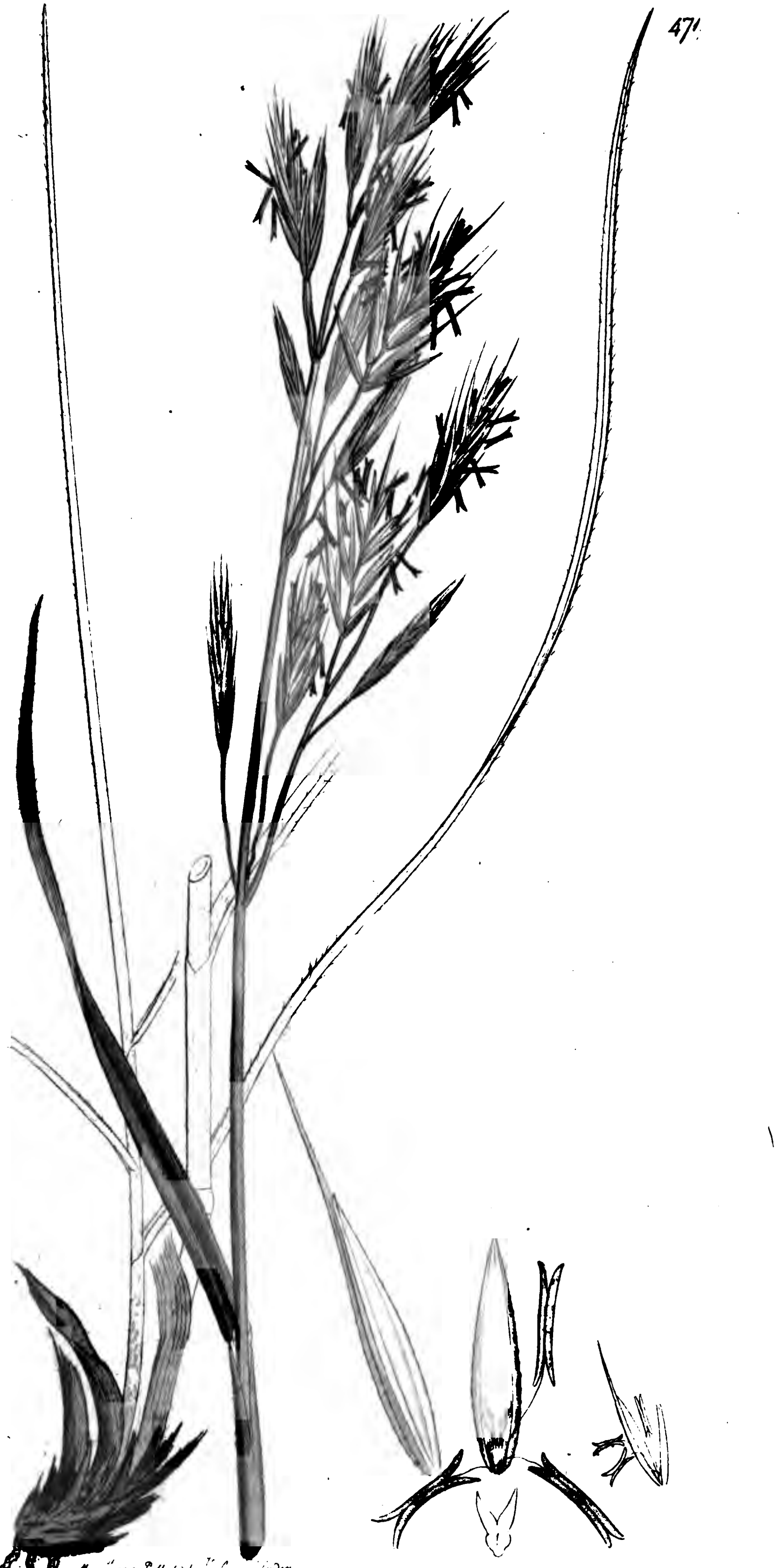
B. perennis. *Villars Dauph. V.* 2. 122.

Festuca avenacea sterilis, spicis erectis. *Raii Syn. ed.* 2. 261. *ed.* 3. 413. the synonyms erroneous.

THIS grass prefers a sand on a chalky soil. Mr. Crowe observed it at Holkham, Norfolk. The Rev. Mr. Hemsted sent this specimen from Cambridgeshire. It was first found by Sherard, near Oxford, from whom (through Bobart) it became known to Ray, as we find by the Sherardian Herbarium at Oxford, where also, by the favour of the present liberal and scientific professor, Dr. Williams, I have learned to decypher the synonyms of this whole genus, which have not been understood by Dillenius, nor any subsequent author, even Linnæus having lent his hand to the almost inextricable confusion.

Root perennial, by which this *Bromus* differs from *arvensis* with which it has been confounded. Straw 2 or 3 feet high, leafy, upright, jointed, sometimes a little downy. Radical leaves numerous, harsh, upright, narrow, fringed unequally with long white scattered hairs, pointing upwards. The stem-leaves are much broader, and have fewer or none of these hairs. Panicle erect, as are all its branches, most of which are simple, one or two only being sometimes branched; all are rough, various in length. Glumes compressed, carinated, purplish, shining, sometimes very downy, sometimes naked, but with a roughish keel and awn, which last, though of course a continuation of the keel, actually separates from the glume a little below its membranous summit. The inner valve of the corolla is finely fringed, though less conspicuously than in most *Bromi*, at least the annual ones. The calyx contains from 7 to 9 or more florets, being in that respect very various. Awn shorter than the husks. Antheræ of a fine saffron colour. Vaillant has well figured this grass, *t.* 18. *f.* 2; but Morison's *sect.* 8. *t.* 7, *f.* 13, however like it, is done from another species.

471.



May 1st 1798 Published by Jas Sowerby London.

CERASTIUM alpinum.

Alpine Chickweed.

DECANDRIA Pentagynia.

Gen. Char. *Cal.* 5-leaved. *Petals* cloven. *Capsule* of one cell, bursting at the top.

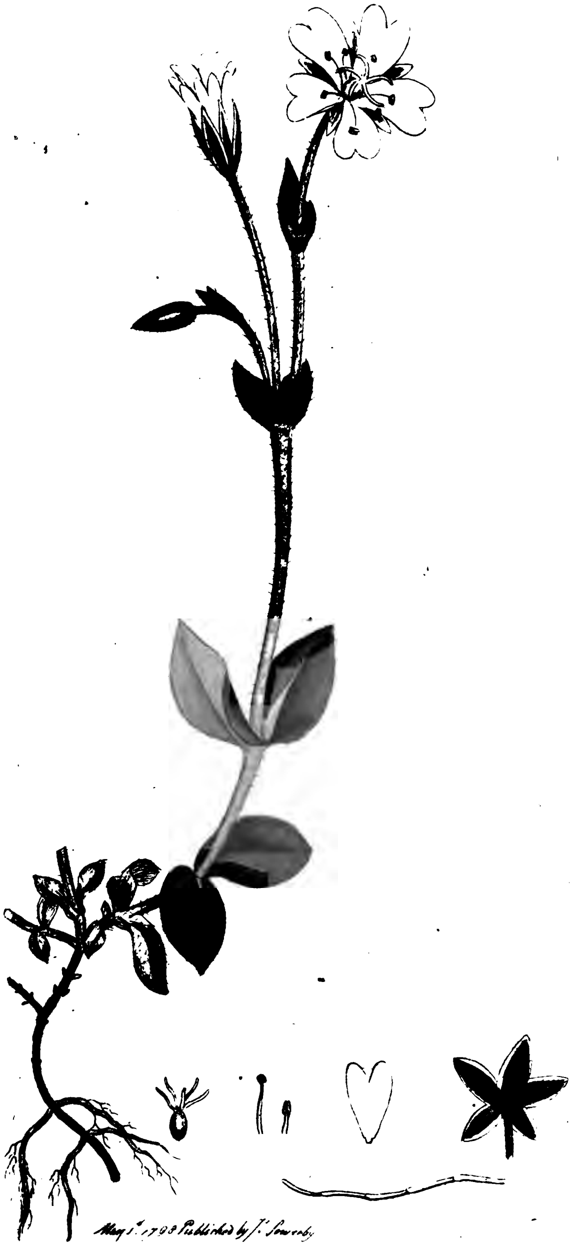
Spec. Char. Leaves elliptical, naked, or clothed with long hairs. Panicle forked, of few flowers, furnished with bracteæ. Capsule oblong, curved.

Syn. Cerastium alpinum. *Linn. Sp. Pl.* 628. *Huds.* 201. *With.* 434. *Fl. Dan. t.* 6.
C. latifolium. *Lightf.* 242. *t.* 10.
Alsines Myosotis facie, Lychnis Alpina flore amplo niveo repens. *Raii Syn.* 349. *t.* 15. *f.* 2.

FEW of our British plants have been less understood than *Cerastium alpinum*, and *latifolium*. We have lately received fresh wild specimens of both from Mr. Griffith of Garn, and others from Mr. Mackay of Edinburgh, and, finding them perfectly distinct, have endeavoured to ascertain their differences and synonyms.

The *C. alpinum* has a creeping perennial root, forming tufts of leafy stems, branching from the base, round, erect, from 3 to 5 inches high, simple upwards, but terminating generally in a sort of forked panicle of several flowers; in poor weak branches or stems, the flower is solitary. Leaves varying in shape and breadth, but always more or less elliptical, a little pointed, opposite of course, and sessile. The herb is sometimes quite smooth, sometimes clothed with white hairs, which are long, silky, pointing upwards, jointed like a *Conferva*, with longish joints. Lightfoot has well figured it in its most hairy state, though he mistook it (as Dr. Withering justly observes) for *C. latifolium.* I have gathered it on Ben Lomond, exactly like that figure; and it being then taken for the *latifolium*, Mr. Woodward's description, made from my specimens, is by mistake referred by Dr. Withering to that species. Dillenius's figure in Ray's Synopsis gives a totally wrong idea of the pubescence, which is there represented very short. The original Linnæan specimen is quite smooth, and we have seen such from Wales, though generally the plant is more or less hairy. The flower-stalks are naturally 2, 3, or more, forming a forked panicle, and each of them is accompanied by a pair of lanceolate bracteæ. The flowers are large, white, and handsome; the calyx edged with a membrane, shorter than the petals. Stamina all perfect. Capsule, as it ripens, lengthened out into a curved horn. This plant flowers from the end of May to August.

472



May 1st 1798 Published by J. Sowerby

CERASTIUM latifolium.

Broad-leaved rough Chickweed.

DECANDRIA Pentagynia.

Gen. Char. *Cal.* 5-leaved. *Petals* cloven. *Capsule* of one cell, bursting at the top.

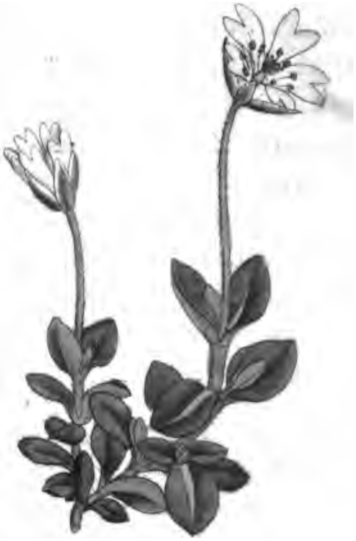
Spec. Char. Leaves elliptical, clothed with short spreading bristles. Flower-stalks terminal, simple, mostly solitary. Capsule oval.

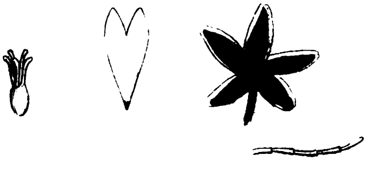
Syn. Cerastium latifolium. *Linn. Sp. Pl.* 629. *Huds.* 202. *With.* 434. *Jacq. Coll. V.* 1. 256. *t.* 20.
C. tomentosum. *Huds. ed.* 1. 176.
Alsine Myosotis lanuginosa Alpina grandiflora. *Raii Syn.* 349.

Cerastium latifolium was sent from Wales and Scotland along with *C. alpinum*, already described under t. 472, it flowers at the same time and is perennial.

The stems form tufts, but are shorter and more thickly set with leaves than in that species; the leaves are broader and more obtuse, clothed (*constantly* as far as we have observed) with numerous short rigid spreading bristly hairs, various in position and direction, making a harsh kind of covering, quite different from the silky hairs of *C. alpinum.* They are also in general more thickly jointed. The flower-stalks are terminal, mostly solitary, simple, often as long as the whole stem, clothed with glandular spreading hairs, and frequently destitute of bracteæ. The flowers differ but little from that species. It appears that the stem is at length protruded beyond the insertion of the flower-stalk, and may occasionally bear an autumnal flower, when the first has ripened its seed. The capsule is oval and is not curved, shorter than that of *C. alpinum.*—We presume there is no doubt of this being the plant of Ray as above quoted, though we have seen no original specimens. It used to be referred, from Mr. Hudson's error, to the *tomentosum* of Linnæus, from which it differs widely.

473





May 1 1798 Published by Js Sowerby London

FUCUS siliquosus.

Podded Fucus.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced in clustered tubercles, which burst at their summits.

Spec. Char. Frond compressed, alternately branched. Air-bladders of many cells, compressed, beaked. Fructification in lanceolate solid processes, studded with clusters of seeds.

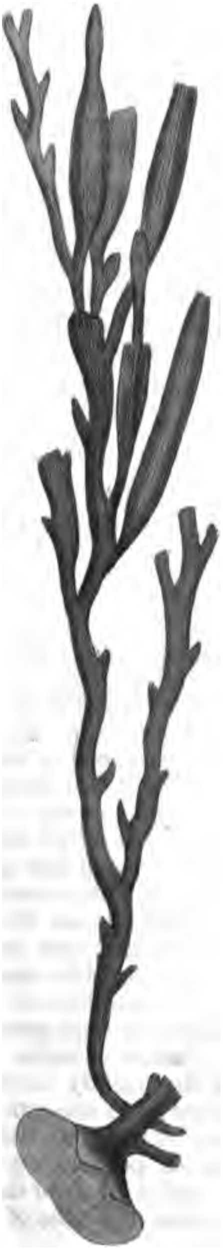
Syn. Fucus siliquosus. *Linn. Sp. Pl.* 1629. *Huds.* 574. *With. V.* 4. 88. *Stackhouse Nereis Brit. t.* 5. *Goodenough and Woodward in Linn. Tr.* V. 3. 124.

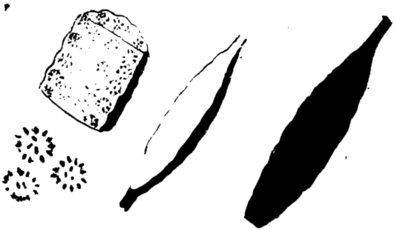
F. angustifolius, vesiculis longis siliquarum æmulis. *Raii Syn.* 48.

ON rocks and stones in the sea, and frequently thrown up on the beach.

Root an expanded tubercle. Whole plant flat, of a dark olive brown. Stem compressed, without a rib, much and alternately branched, a little zigzag, from one to four feet long, smooth. Air-bladders on short footstalks, lanceolate, compressed, beaked, separated within into many cells by transverse partitions, each of which making a little stricture on the outside gives the whole a jointed or pod-like appearance. The cells have also white fibres running across them internally. The fructification is quite distinct from the above, consisting of clusters of seeds studded into, and imbedded through the substance of, several leaf-like solid processes on footstalks, resembling the air-bladders except in being less beaked, not jointed, but on the contrary granulated on their surface by the projecting clusters of seeds. This fructification appears to have been first rightly understood very lately by Mr. Dawson Turner of Yarmouth, who favoured us with the specimen here delineated; but upon examination every old specimen in our possession is in the same state, particularly some gathered at Leith in the winter of 1781, for in that time of the year this tribe of plants generally produce their seeds.

The *F. siliquosus* is often found infested with the *Sertularia geniculata* covering its younger branches.





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SAMBUCUS Ebulus.

Dwarf Elder, or Danewort.

PENTANDRIA Trigynia.

Gen. Char. *Cal.* in 5 segments. *Cor.* 5-cleft. *Berry* with 3 seeds.

Spec. Char. Cymes with three principal branches. Stipulæ leafy. Stem herbaceous.

Syn. Sambucus Ebulus. *Linn. Sp. Pl.* 385. *Huds.* 130. *With.* 316. *Relh.* 127. *Sibth.* 104. *Curt. Lond. fasc.* 3. *t.* 18.

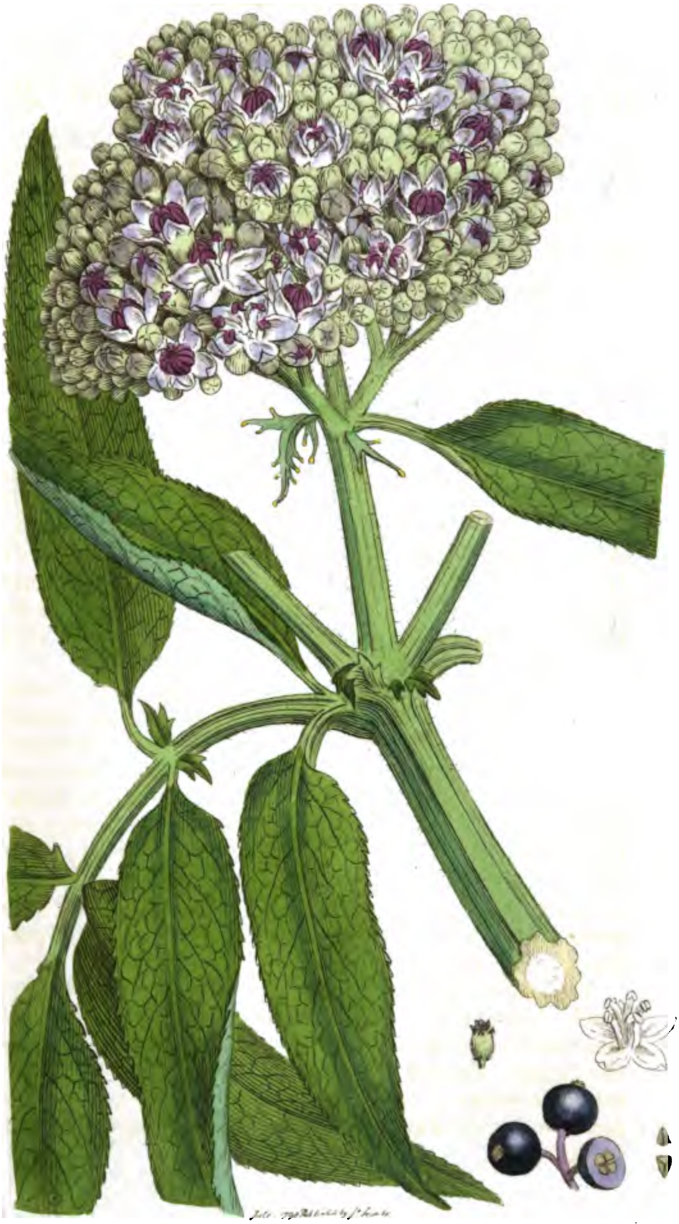
S. humilis seu Ebulus. *Raii Syn.* 461.

THE Dwarf elder grows here and there in waste ground throughout Britain, not commonly, though in great plenty wherever it occurs at all, as the creeping roots spread very far, and are scarcely to be eradicated. It is plentiful at Honingham, Norfolk. Our specimen grew in Lambeth Marsh. It flowers after midsummer, and ripens its berries late in autumn, which however, like the fruit of other creeping-rooted plants, are rarely perfected.

The stems are herbaceous, three feet high, erect, roundish, furrowed, leafy. Leaves pinnate, dark green, smoothish, the leaflets ovato-lanceolate, acute, serrated; unequal and generally glandular at their base. Stipulæ large, leafy, serrated, sometimes accompanying a pair of the leaflets as well as the whole leaf. Cyme terminal, of three principal branches, and many small ones, which are hairy. All the flowers stand on foot-stalks. Calyx small, purple. Petals of a dull blood red. Stamina thick, white, with red antheræ, whose lobes are distant. Berries globular, of a purplish black, with three, sometimes four, seeds.

The whole plant is fœtid, and violently purgative. No cattle will eat it. Moles will not come where the leaves of this species, or even the common Elder, are laid. A rob of the berries, though actively cathartic, may be used with tolerable safety as far as the dose of an ounce; but it has the inconveniences of Senna, and is in no respect to be preferred to that drug.

475



Jul. 1. 1798 Publish'd by J. Sowerby

SAMBUCUS nigra.

Common Elder.

PENTANDRIA Trigynia.

Gen. Char. *Cal.* in 5 segments. *Cor.* 5-cleft. *Berry* with 3 seeds.

Spec. Char. Cymes with five principal branches. Leaflets ovate. Stem a tree.

Syn. Sambucus nigra. *Linn. Sp. Pl.* 385. *Huds.* 130. *With.* 316. *Relh.* 128. *Sibth.* 105. *Woodv. Med. Bot. t.* 78.

Sambucus. *Raii Syn.* 461.

ABUNDANT every where in hedges and groves, flowering in June, and ripening its berries copiously in September.

This species grows to a middle-sized bushy tree, with a smooth grey bark when young. The branches are opposite, leafy, of quick growth, and full of a light white pith, which is put to various uses for which such a substance is required. The pinnated leaves consist of about 5 oval, pointed, serrated leaflets, nearly equal at their base, and have no stipulæ, or very small ones. Cymes terminal, solitary, of 5 principal branches, and many small ones, and some of the flowers are sessile. Flowers cream-coloured, with a faint smell, especially when dried. Berries globular, purplish black.

This tree is as it were a whole magazine of physic to rustic practitioners, nor is it quite neglected by more regular ones. Ointments are made of the green inner bark, which is also a strong purgative: the dried flowers infused in water are used in fomentations, or as tea, though in the latter capacity they are weakening to the nerves: the berries are boiled into a rob, which is really useful in sore throats and catarrhs, and acts as a gentle laxative in febrile disorders. The leaves laid into the subterraneous paths of the mole drive it away; and an infusion of them is extremely useful for curious gardeners to sprinkle over the buds of such flowers as they wish to preserve from minute caterpillars, as few insects can bear the Elder. The *Phalæna Sambucaria*, however, feeds on this plant, and the colouring of its delicate wings seems to imitate the blossoms.

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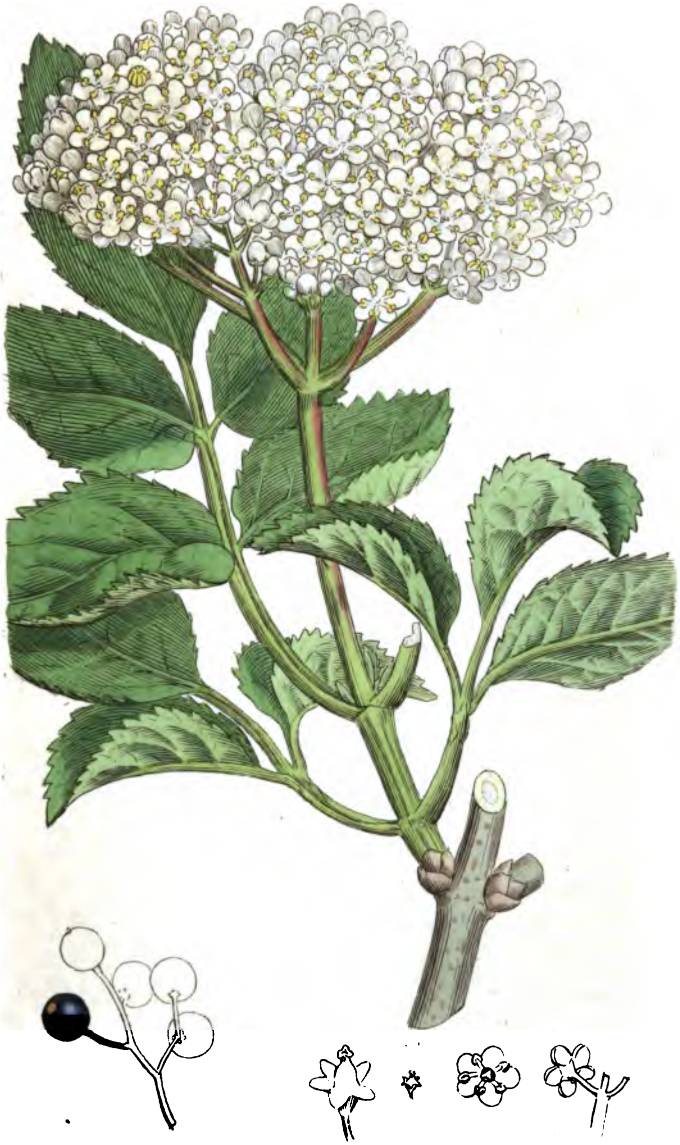

July 1 1798 Published by J. Sowerby London

AJUGA alpina.

Alpine Bugle.

DIDYNAMIA Gymnospermia.

Gen. Char. Upper lip of the *Corolla* very minute, and much shorter than the stamina.

Spec. Char. Stem simple. Leaves almost smooth, irregularly toothed, all nearly of a size. Whorls not crowded, of many flowers.

Syn. Ajuga alpina. *Linn. Mant.* 80.
A. genevensis. *With.* 516. *Scholler Fl. Barb.* 135.
A. pyramidalis. *Huds.* 248.
Bugula cærulea alpina. *Pluk. Phyt. t.* 18. *f.* 3. *Raii Syn.* 245.

WE have received a specimen of this plant from Durham by favour of Mr. Robson, and another gathered by Mr. Dawson Turner, in July 1795, on the summit of a mountain near Castleton, Derbyshire. There is no doubt of its being the *A. alpina* of Linnæus, as his description and numerous specimens prove; notwithstanding great variations to which it is liable in the upper leaves, which are sometimes quite entire, or slightly waved, at other times furnished with a few large deep indentations or lobes.

The root is perennial, with long fibres. Stems simple, erect, near a foot high, destitute of running scyons at the base, angular, slightly hairy, leafy; the pairs of leaves and the whorls are rather distant, by no means crowded into a pyramidal form as in *A. pyramidalis*, nor are the radical leaves (as in that species) 3 or 4 times as large as those on the stem, and very hairy; but, on the contrary, the lower leaves are but little larger than the others, and all very nearly smooth, veiny, unequally toothed. The bracteæ are sometimes quite entire, sometimes toothed; the uppermost only tinged with purple; whereas in *A. pyramidalis*, they are all reddish. Flowers from 10 to 20 in each whorl. Calyx chiefly hairy at the teeth. Flowers pale, streaked with deeper blue.—The real *A. genevensis* of Linnæus, in his herbarium, is very woolly, and more densely spiked than our plant, with leaves rather crenate than toothed. Yet we are by no means certain of its being more than a variety. Whether the *pyramidalis* be also a British plant, we have not yet satisfactorily determined.

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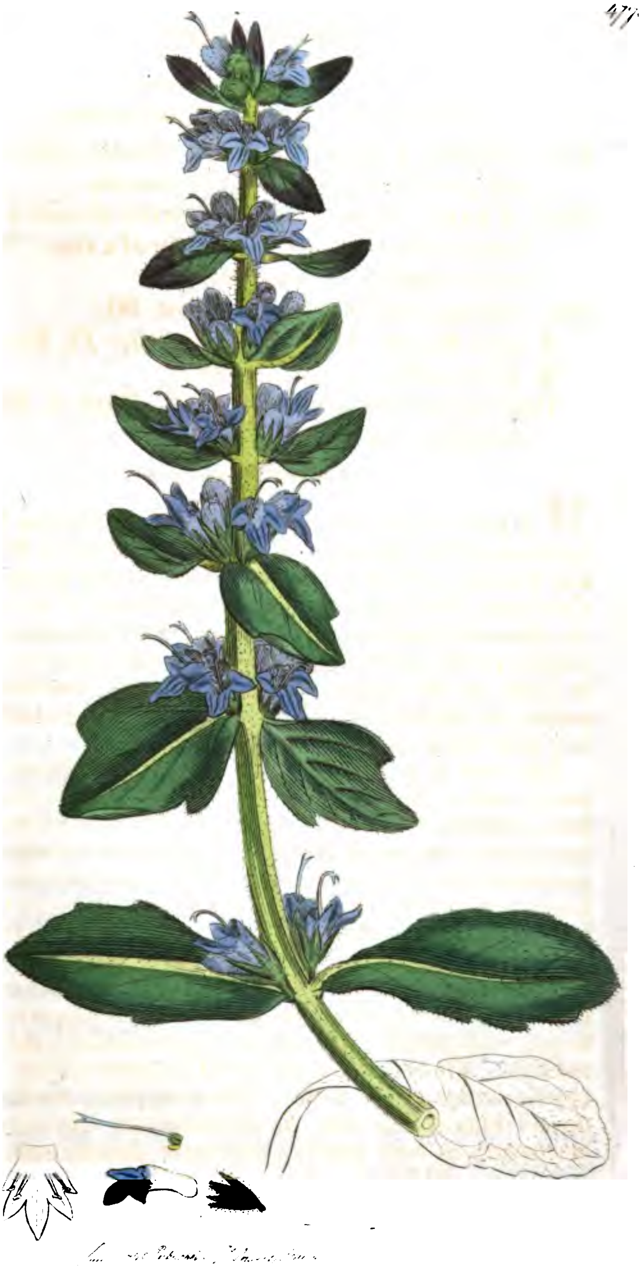

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BUPLEURUM tenuissimum.

Slender Thorough-wax, or Hare's-ear.

PENTANDRIA Digynia.

Gen. Char. *Involucrum* longer than the umbels, five-leaved. *Petals* curled in. *Fruit* roundish, compressed, striated.

Spec. Char. Umbels simple, alternate, of about three flowers, with an involucrum of five awl-shaped leaves.

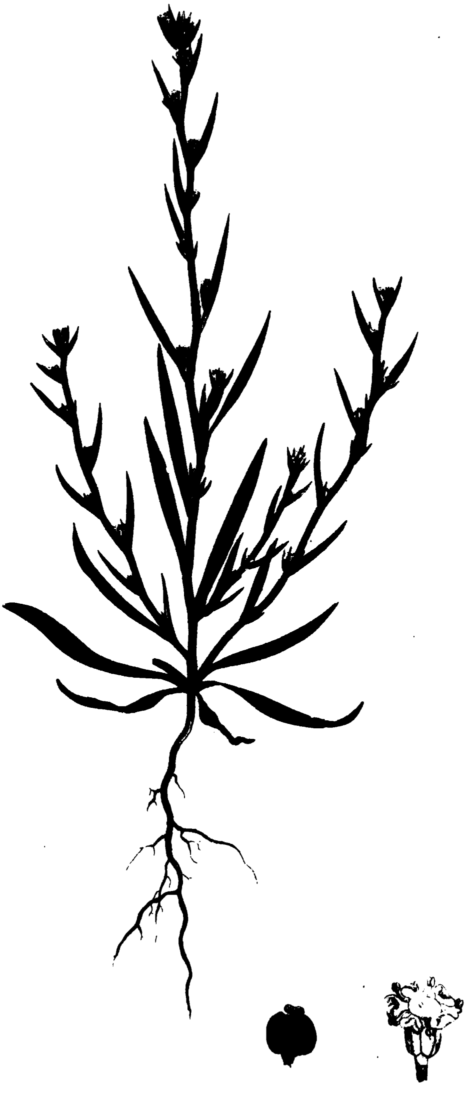
Syn. Bupleurum tenuissimum. *Linn. Sp. Pl.* 343. *Huds.* 111. *With.* 285. *Relh.* 109.
B. minimum. *Raii Syn.* 221.

GATHERED in plenty by Mr. T. F. Forster on the shore near Worthing, Sussex. It prefers a muddy soil, overflowed by salt water, and is found at Lynn, Cley, and Holkham, Norfolk, flowering in August and September.

Root annual, tapering, but little branched. Herb slender, rigid, smooth, branched, erect. Stems zigzag, leafy. Leaves lanceolate, narrow, pointed, entire, alternate, tapering at the base. Umbels axillary, simple, sometimes arranged in a spike; each of them of about 3 small greenish yellow flowers, surrounded by an involucrum, much longer than themselves, of five lanceolate, pointed, ribbed, nearly equal leaves. The seeds are hemisphærical, compressed, angular, and rugged.

The whole plant has a pungent disagreeable taste and smell, and is of an acrid quality. We do not know of its being applied to any use.

670



July 1 1798 Publish'd by J. Sowerby London

CICUTA virosa.

Water Hemlock. Water Cow-bane.

PENTANDRIA Digynia.

Gen. Char. No general *Involucrum*. *Fruit* nearly ovate, furrowed. *Corolla* almost regular.

Spec. Char. Umbels opposite to the leaves. Stipulæ running up the leaf-stalks, blunt.

Syn. Cicuta virosa. *Linn. Sp. Pl.* 366. *Huds.* 122. *With.* 304. *Relh.* 119.

Sium alterum, Olusatri facie. *Raii Syn.* 212.

HAPPILY this dangerous plant is not very common. We received it from Tuddenham-heath, where it was gathered by the Rev. Mr. Hemsted in August last. It grows in ditches, and the margins of rivers, always under water when young, in which situation cows and bullocks, to which animals it is a deadly poison, sometimes by mistake eat it. By what Haller has collected it appears to be poisonous also to mankind, by quickly inflaming the stomach, as well as to the canine genus. Horses, hogs, and goats eat it with impunity. Linnæus in his Flora Lapponica gives a most exquisite detail of the reasons which led him to conclude this plant to be the cause of a terrible disease among the cattle at Tornea in Lapland, by which he rendered an invaluable service to that country.

The root is perennial, tuberous, separated internally into several cavities by transverse partitions. Stem branched, furrowed, 3 or 4 feet high. Leaves twice ternate, the larger pinnate; their common stalk bordered a great way up by a membranous blunt stipula; leaflets lanceolate, serrated, smooth, bright green. Umbels on footstalks various in length, opposite to each leaf, consisting of several principal rays (without any general involucrum), and still more numerous short partial rays, encompassed by an involucrum of many narrow lanceolate leaves. Calyx somewhat campanulate. Petals nearly all of a size, rolled in, white. Fruit swelled, of a short ovate figure, ribbed.

The *Cicuta virosa* can hardly be confounded with any other British plant, if the form of the leaves and situation of the flowers be attended to. Its flavour is fœtid and pungent. If it should unfortunately be taken into the stomach, a speedy emetic is the best remedy, or a dose of oil.

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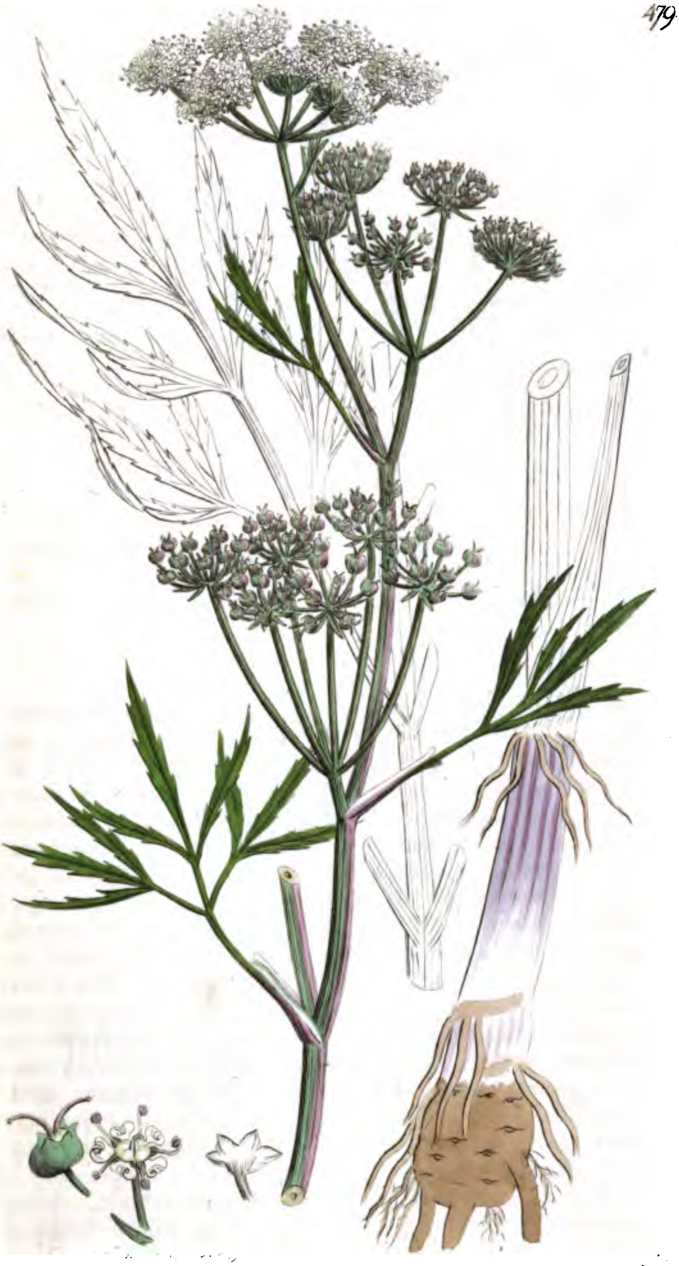


MYOSOTIS scorpioides.

Mouse-ear Scorpion-grass.

PENTANDRIA Monogynia.

Gen. Char. *Corolla* salver-shaped, 5-cleft, slightly notched; its orifice closed with concave valves.

Spec. Char. Seeds smooth. Leaves elliptic-lanceolate. Clusters of many flowers, without bracteæ.

Syn. Myosotis scorpioides. *Linn. Sp. Pl.* 188. *Huds.* 78. *Relh.* 75.

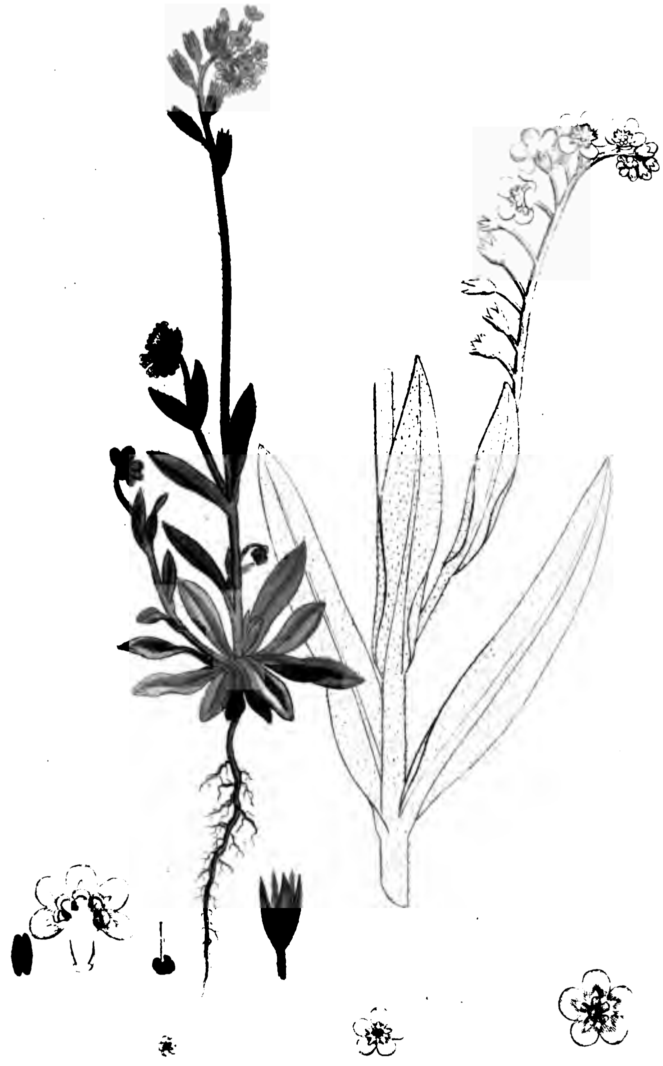
M. arvensis. *Sibth.* 68. *With.* 225.

M. scorpioides hirsuta. *Raii Syn.* 229.

β M. scorpioides palustris. *Linn. Sp. Pl.* 188. *Curt. Lond. fasc.* 3. *t.* 13. *Raii Syn.* 229.

M. palustris. *With.* 225. *Relh.* 76. *Sibth.* 68.

THE smaller variety of this plant represented entire in our figure, is common on dry sandy or gravelly hillocks, generally near water upon heaths; it is also frequent in fallow fields; and a still smaller variety, with flowers entirely yellow, grows on walls. It is annual, flowering throughout the summer. The large variety, of which we exhibit only a branch, Mr. Curtis having given the whole plant, is said to be perennial; a matter we have never been able to verify, and are inclined to doubt. It grows in ditches and clear springs, to which its enamelled blue flowers, generally pink in the bud, are a distinguished ornament. There is also a variety much like this aquatic one, but more hairy, figured in Ray's Synopsis by Dillenius, *t.* 9. We are persuaded these make but one species. No plant varies more palpably in size and hairiness. The teeth of the calyx in the aquatic kind are generally shorter and blunter, which is made a specific distinction by several ingenious authors quoted above, and has almost staggered us: as to hairiness, it varies, like every other part. The shape of the leaves is pretty constant. Linnæus characterizes them as callous at the tip, which is not very generally perceptible. Neither are the lobes of the corolla so evidently or constantly notched as his generic definition implies.



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VICIA lutea.

Rough-podded Yellow Vetch.

DIADELPHIA Decandria.

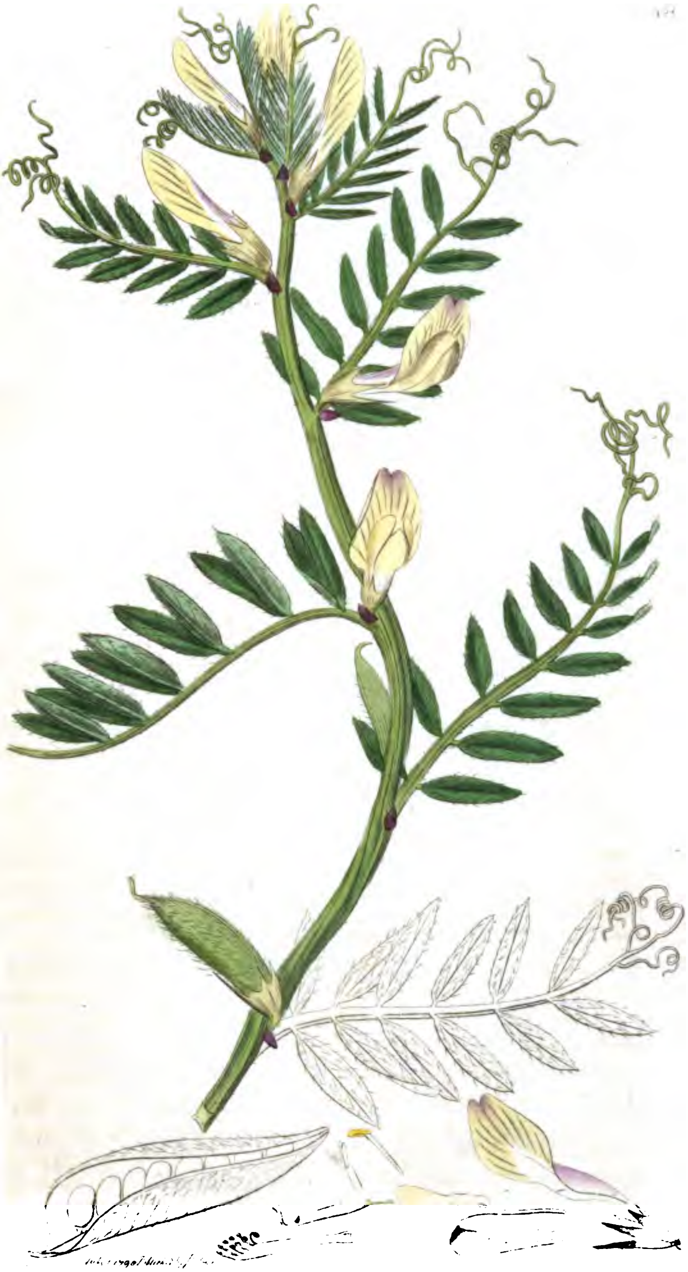
GEN. CHAR. *Stigma* transversely bearded on the lower side.

SPEC. CHAR. Pods sessile, solitary, reflexed, hairy, Stems diffuse. Stipulæ blood-red. Standard of the flower smooth.

SYN. Vicia lutea. *Linn. Sp. Pl.* 1037. *Huds.* 319. *With.* 639.

THE late Mr. Humphrey of Norwich found this plant many years ago on the beach at Orford, Suffolk, on the side next the river, about a mile from the haven's mouth. It has since been met with at Aldborough, by the Rev. Mr. Burroughes. Our specimens were gathered at Weymouth, by the Rev. Mr. Baker and A. B. Lambert, Esq. in August 1795. We know of no other British stations of the *V. lutea*, the plant found on Glastonbury Tor hill being the *hybrida*.

The root is perennial, long, dividing at the top, among the loose pebbles where it grows, into several diffuse, angular, smooth, leafy stems, often two or three feet long, but little branched. Some of the branches are always subterraneous, producing colourless condensed *gemmæ* rather than flowers, which however form seeds as in *Lathyrus amphicarpos*, and some other vetches. The leaves are composed of numerous, opposite or alternate, pointed or bluntish leaflets, hairy beneath, with a branched tendril at the end of their common foot-stalk. Stipulæ triangular, generally stained externally, more or less deeply, with a blackish red hue; some of them however are green. Flowers axillary, solitary, sessile, pale yellow, but generally more or less streaked and stained with a bluish grey or purple; very rarely they are all over grey. Pods reflexed, clothed with short hairs arising from small tubercles. The seeds are from five to eight, oval, bitter and astringent in a young state.



VICIA hybrida.

Hairy-flowered Yellow Vetch.

DIADELPHIA Decandria.

Gen. Char. *Stigma* transversely bearded on the lower side.

Spec. Char. Pods sessile, solitary, reflexed, hairy. Stipulæ green. Standard of the flower hairy. Leaflets emarginate.

Syn. Vicia hybrida. *Linn. Sp. Pl.* 1037. *Jacq. Hort. t.* 146.

V. luteo flore sylvestris. *Raii Syn.* 321.

GATHERED by A. B. Lambert, Esq. in June 1797, on Glastonbury Tor hill, Somersetshire, as mentioned by Ray; for our specimens prove the plant of Ray to be *V. hybrida*, and not *lutea* as Hudson thought. Indeed it appears the last-mentioned author never knew the real *hybrida*, as it does not grow at Weymouth; and we have detected what he gathered there for this species to be another, hitherto nondescript, as will appear in the next page.

The plant now before us has generally taller and rather more upright stems than *V. lutea*, which it otherwise very nearly resembles in habit and leading characters. The flowers are generally yellow, streaked a little with pale purplish red; we know not that they ever vary to grey or purple. They are essentially characterized by the back of their standard or *vexillum* being hairy. Another mark of this species is the stipulæ being entirely green. The leaflets vary greatly in shape, as in most of this tribe, but are always more obtuse and emarginate than those of *V. lutea*. As in that species, they are hairy, as well as the pods. The root is perennial.

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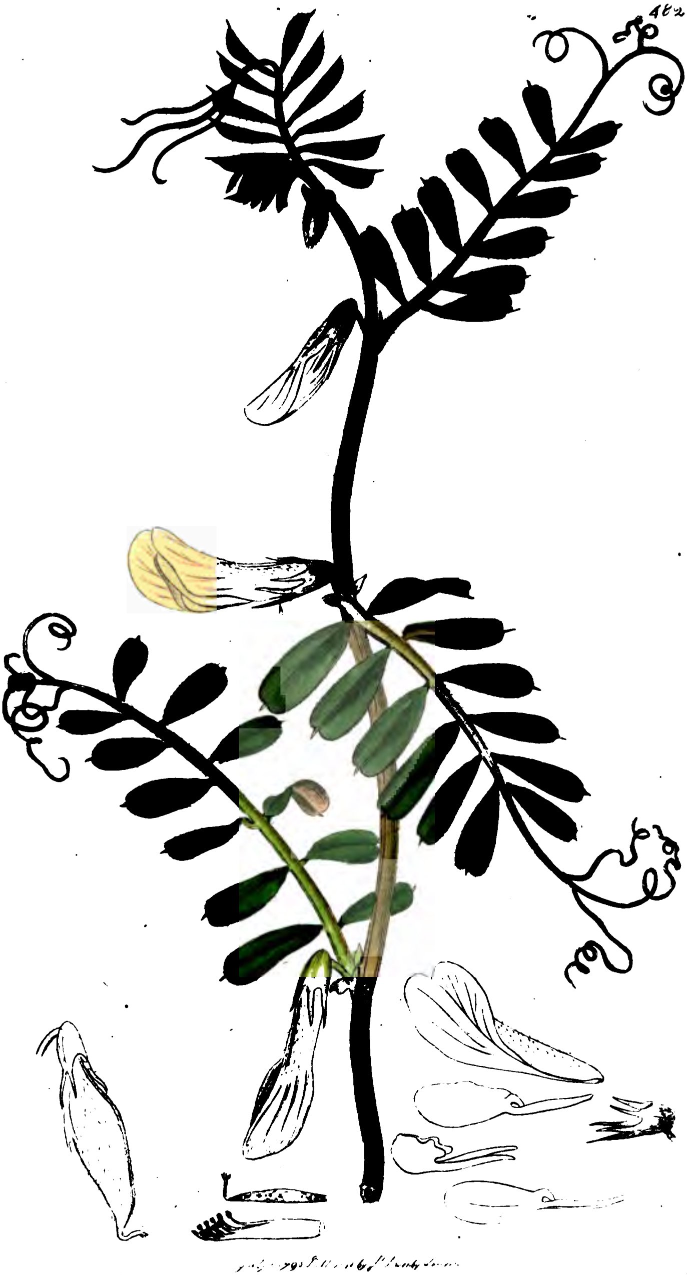


[illegible] 1798 [illegible] by J. Sowerby London

VICIA lævigata.

Smooth-podded Sea Vetch.

DIADELPHIA Decandria.

Gen. Char. *Stigma* transversely bearded on the lower side.

Spec. Char. Pods sessile, solitary, reflexed, smooth. Stems upright. Stipulæ greenish. Leaves smooth.

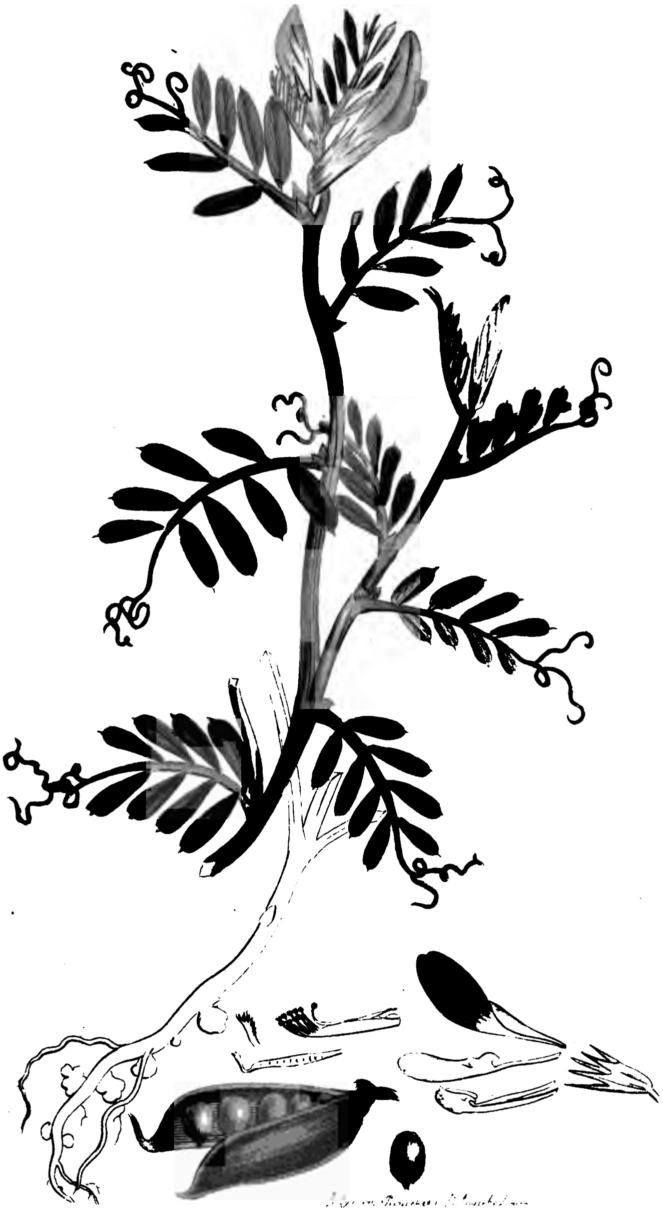
Syn. Vicia hybrida. *Huds.* 319. *With.* 639.

THIS specimen was gathered on the beach at Weymouth, by the Rev. Mr. Baker, in August 1792. On the authority of an original specimen sent to Dr. Pulteney by the late Mr. Hudson, we pronounce it his *V. hybrida*, and consequently that of Dr. Withering, who in this instance has relied on the *Flo. Anglica.* In fact, many persons who have found this *Vicia* at Weymouth have taken it for *hybrida;* others have supposed it *bithynica;* though it answers to the characters of neither. The true *bithynica* is also found at Weymouth. It appears by Mr. Lightfoot's herbarium, now in her Majesty's possession, that he was well acquainted with our *V. lævigata.* The Rev. Dr. Goodenough has also communicated to us cultivated specimens, and from long observation is convinced of the certainty of the species.

The stems of *V. lævigata* are only from six to twelve inches long, upright and always much less diffuse than those of *V. lutea.* Leaves and whole plant entirely smooth. Stipulæ green, or pale brown. Flowers like those of the *lutea*, but their calyx-teeth are generally more equal in length. In colour they are for the most part less yellow, and sometimes quite blue; but both species are so extremely variable in that respect, we have rather expressed the two extremes of colour common to both. The pods are readily known by being quite smooth in every stage of their growth, and contain rarely more than five seeds. It is perennial, flowering from July to September. The young seeds are bitter and astringent, as in the other species just mentioned.

Scopoli's *V. grandiflora* appears to us too uncertain to be referred to any of our species. Although Linnæus in *Sp. Pl.* mentions his *V. lutea* as varying sometimes with almost smooth pods, which we have not remarked in that, we have no authority to suppose he confounded our *lævigata* with it.

483.



VERONICA alpina.

Alpine Speedwell.

DIANDRIA Monogynia.

Gen. Char. *Corolla* inferior, of one petal, four-cleft; lower division narrowest. *Caps.* 2-celled.

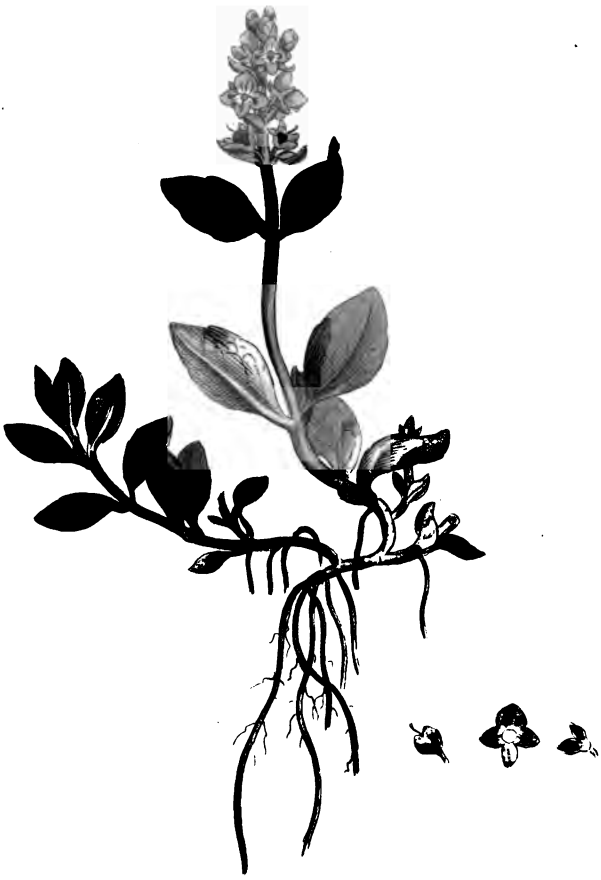
Spec. Char. Corymbus terminal. Leaves opposite, ovate, smooth, slightly serrated. Calyx hairy. Stem simple, ascending.

Syn. Veronica alpina. *Sp. Pl.* 15. *With.* 14. *Dicks. Crypt. fasc.* 2. 29. *Tr. of Linn. Soc.* *v.* 2. 287.

GATHERED on the mountains of Badenoch, Scotland, in 1794, by Mr. J. Mackay, who sent us this specimen. Mr. Dickson first ascertained the real *V. alpina* to be a native of Britain, and the plant so denominated by Mr. Lightfoot to be a new species now named *humifusa;* consequently the description in the *Flo. Scot.*, compiled from Linnæus's *Flora Lapponica*, is there misapplied, and belongs to the species here before us.

V. alpina flowers in July and August, and is perennial. It is found only on the highest alps, in boggy spots among trickling rills. Root of long simple fibres. Stems branched and procumbent at the very base, from whence they also throw out roots, then obliquely upright, three or four inches high, leafy, round, smooth or hairy. Leaves opposite, on short foot-stalks, ovate, rather obtuse, often entire, but generally with a few dispersed crenatures, dark green, polished, smooth. Flowers in a short, dense, blunt spike or corymbus, afterwards lengthened out; the lowermost flower-stalks longest. Calyx in four, rather unequal, hairy and ciliated segments. All the hairs are finely jointed. Flowers bright blue, with a white tube. Capsule compressed, notched, hairy, tipped with the permanent style.

484.



[illegible] 179. Published by J. Sowerby Lond.

LICHEN querneus.

Oak Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

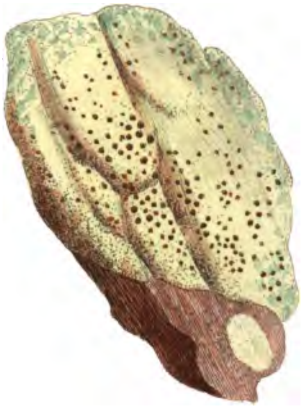
Spec. Char. Leprous, brownish pale yellow. Tubercles brown, convex, slightly immersed in the crust.

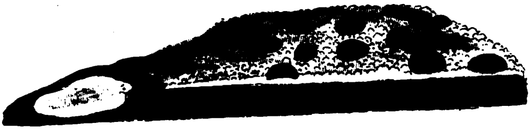
Syn. Lichen querneus. *Dicks. Crypt. fasc.* 1. 9. *t.* 2. *f.* 3. *With. v.* 4. 11. *Relh. Suppl.* 1. 22. *Sibth.* 319.

THIS Lichen is not unfrequent in the clefts of the bark upon the trunks of old oaks, particularly in an exposed situation. It spreads over the dead external angulated layers of bark, in the form of a dull sulphur-coloured mealy crust of an inconsiderable thickness; and sometimes, according to the remark of Mr. Dawson Turner, it clothes other Lichens, and disguises them so that they might be mistaken for new species. The tubercles are minute, regular in shape and size, a little convex, of a dark dull brown, almost black when dry, without any percepticle border. They are chiefly to be found in moist weather, at any time of the year, but not very frequently.

This specimen was sent us by the Rev. Mr. Alderson, from Norfolk, where the *Lichen querneus* was first discovered, and characterized by Mr. Dickson. It is somewhat a-kin to *L. coccineus*, see *t.* 223., and still more to the *Lepra lutescens* of Hoffmann, *Pl. Lichenosæ*, *t.* 23. *f.* 1, 2. the shields of which when discovered may perhaps prove them to be one species. When young this species has a narrow blackish border.

405.





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LICHEN Hæmatomma.

Bloody-specked Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Crustaceous, white, mealy, with a fibrous border. Shields imbedded, scarlet, concave; when old, convex; their margin thick, white, elevated, mealy.

Syn. Lichen Hæmatomma. *Ehrh. Beiträge fasc.* 2. 157. *Gmel. Syst. Nat. Linn. v.* 2. 1361.

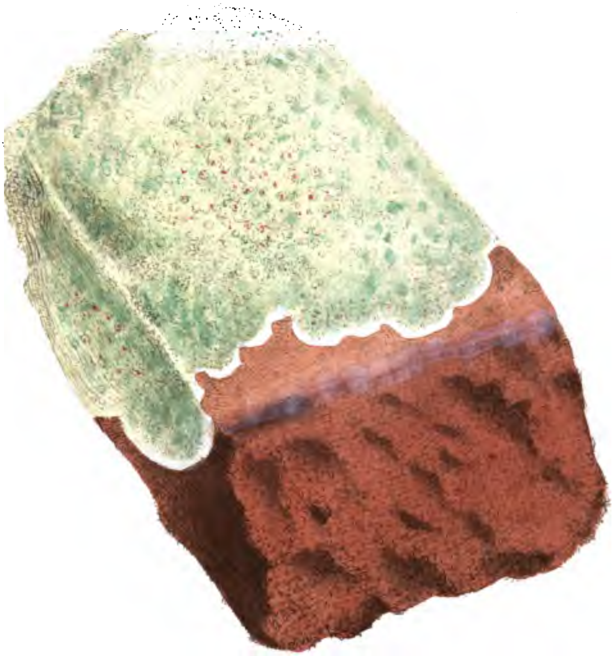
Verrucaria Hæmatomma. *Hoffm. Pl. Lich. t.* 11. *f.* 1.

FOUND, for the first time in this island, by Robert Stone and D. Turner, Esqrs. on brick walls, at Gorlestone, near Yarmouth, in considerable plenty.

The crust is of a greyish white, mealy, or minutely granulated, greenish within, spreading to a considerable extent, scarcely half a line in thickness, its border when young as white as snow, and composed of very fine parallel fibres. The shields are minute, imbedded in the crust, of a palish vermillion hue, concave, enclosed in a very prominent thick overhanging margin, which is of the same colour and mealy substance as the crust. In process of time they become more elevated, and of a darker hue.

At first sightt his *Lichen* appears like a powdery *Byssus*, through whose substance minute points of the brick on which it grows, had, by accidental attrition, become visible; but those red points are on examination found to be beautiful little shields. We think there can be no doubt of its being the plant to which we have referred in Prof. Hoffmann's exquisite work, though the crust is there delineated more cracked and browner, with shields less regular, and more dark coloured than ours, being farther advanced in age. The description, like all of this author, is accurate and characteristic.

490



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VERBASCUM pulverulentum.

Yellow hoary Mullein.

PENTANDRIA Monogynia.

Gen. Char. *Cor.* wheel-shaped, a little irregular. *Caps.* with 2 cells and 2 valves.

Spec. Char. Leaves oblong-ovate, slightly serrated, mealy on both sides. Stem round, panicled.

Syn. Verbascum pulverulentum. *Curt. Cat. Salisb. Prod.* 104.

V. pulverulentum, flore luteo parvo. *Raii Syn.* 287.

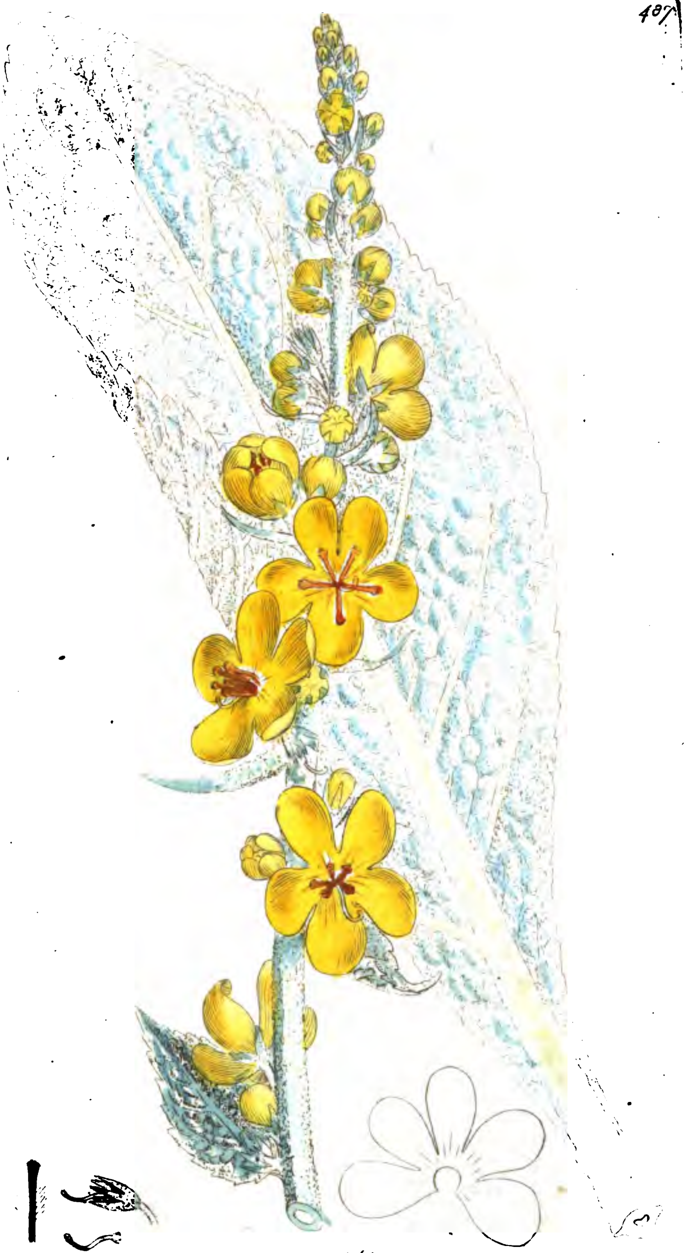
V. Lychnitis β. *Huds.* 90. var. 1. *With.* 249.

GATHERED by Mr. John Wagstaff, at Norwich, about which town, as well as Bury, and in some other parts of Norfolk and Suffolk, this beautiful plant grows plentifully in waste ground, hedges, and the borders of fields. It is biennial, flowering in July; at which time, if not previously broken or damaged, it forms a golden pyramid a yard high, of many hundreds of flowers, and is one of the most magnificent of British herbaceous plants.

The leaves are often above a foot long, of a somewhat elliptical pointed form; those on the stem more ovate and sessile; all of them slightly serrated, and clothed on both sides with white mealy down, which easily rubs off, and when seen in a microscope, is found to consist of numerous starry entangled tufts. The stem is round, not angular as in true *V. Lychnitis*, *t.* 58, woolly, as well as the calyx, forming a pyramidal branched panicle. The flowers are clustered on its branches. Corolla large, bright yellow. Stamina scarlet, bearded with pale or white hairs. In some places, as Hellesdon, near Norwich, a mule plant is produced between this and *V. nigrum*, having the habit of the former, and flowers with purple stamina like the latter.

We are now satisfied that the capsule of this genus has 2 cells, and have corrected ourselves accordingly.

A singular instance of irritability in this and some other species of *Verbascum* has been pointed out to us by Mr. Correa. In still warm weather if two or three smart blows be given to the stem with a cane or stick, all the corollæ then open, though not immediately loosened, in a few minutes fall off, separating one after another from their base, and the calyx closes round the germen, seeming as it were to push the blossom off.



Octr. 1. 1798 Published by Js. Sowerby London.

ALLIUM oleraceum.

Streaked Field Garlick.

HEXANDRIA *Monogynia.*

Gen. Char. *Cor.* in 6 spreading segments.* *Spatha* containing many flowers. *Umbel* dense. *Capsule* superior.

Spec. Char. Umbel bearing bulbs. Leaves rough, channelled, ribbed beneath. Stamina simple. Spatha with two long points.

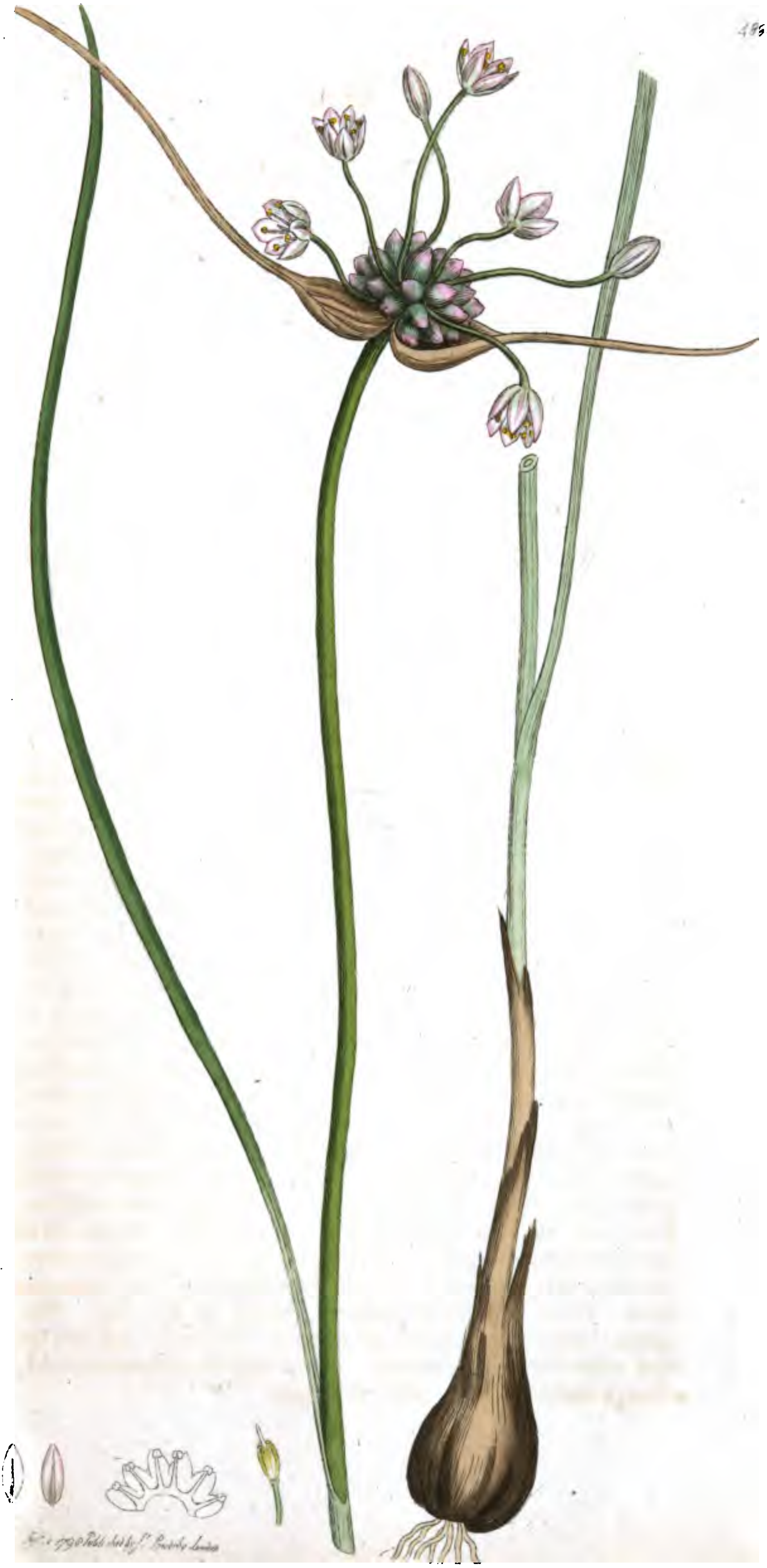
Syn. Allium oleraceum. *Linn. Sp. Pl.* 429. *Huds.* 140. *With.* 334.

A. sylvestre bicorne, flore ex herbaceo albicante, cum triplici in singulis petalis striâ atro-purpureâ. *Raii Syn.* 370.

THIS wild specimen was gathered at Fincham, Norfolk, by the Rev. Mr. Forby. We have received others from Westmoreland, and Ray found this species in his parish of Black Notley, Essex. It is perennial, flowering in July. This is certainly the *oleraceum* of Linnæus, though some have taken it for his *carinatum*, a larger and distinct kind.

Bulb the size of a hazel nut. Stem round, slender, leafy, near 2 feet high. Leaves sheathing at their base, a foot long, narrow, dull green, flat or channelled above, convex and ribbed beneath, appearing under a magnifier rough all over. Umbel simple, terminal, erect. Spatha of 2 concave membranous valves, each terminating in a long spreading leaf-like point, extending far beyond the flower-stalks, which are slender, divaricated, single-flowered, intermixed at their base with numerous little ovate purple bulbs, which falling to the ground become new plants, according to the bountiful provision of nature for this and many other species of Allium, by which they are propagated without end. Segments of the corolla equal, ovate, greenish white, with 3 purple lines. Stamina simple (not toothed), connected by one common base. Germen with 6 furrows, rough at the top. The whole herb has the fœtor of garlick; the bulb has less of that scent than many others. It is a very troublesome weed, though fortunately of rare occurrence.

485.



Sep. 1. 1799 Publ. by W. Curtis London

AJUGA reptans.

Common Bugle.

DIDYNAMIA Gymnospermia.

Gen. Char. Upper lip of the *Corolla* very minute, and much shorter than the stamina.

Spec. Char. Herb smooth. Stem solitary, throwing out creeping scyons.

Syn. Ajuga reptans. *Linn. Sp. Pl.* 785. *Huds.* 248. *With.* 517. *Relh.* 220. *Sibth.* 180. *Curt. Lond. fasc.* 2. *t.* 43.

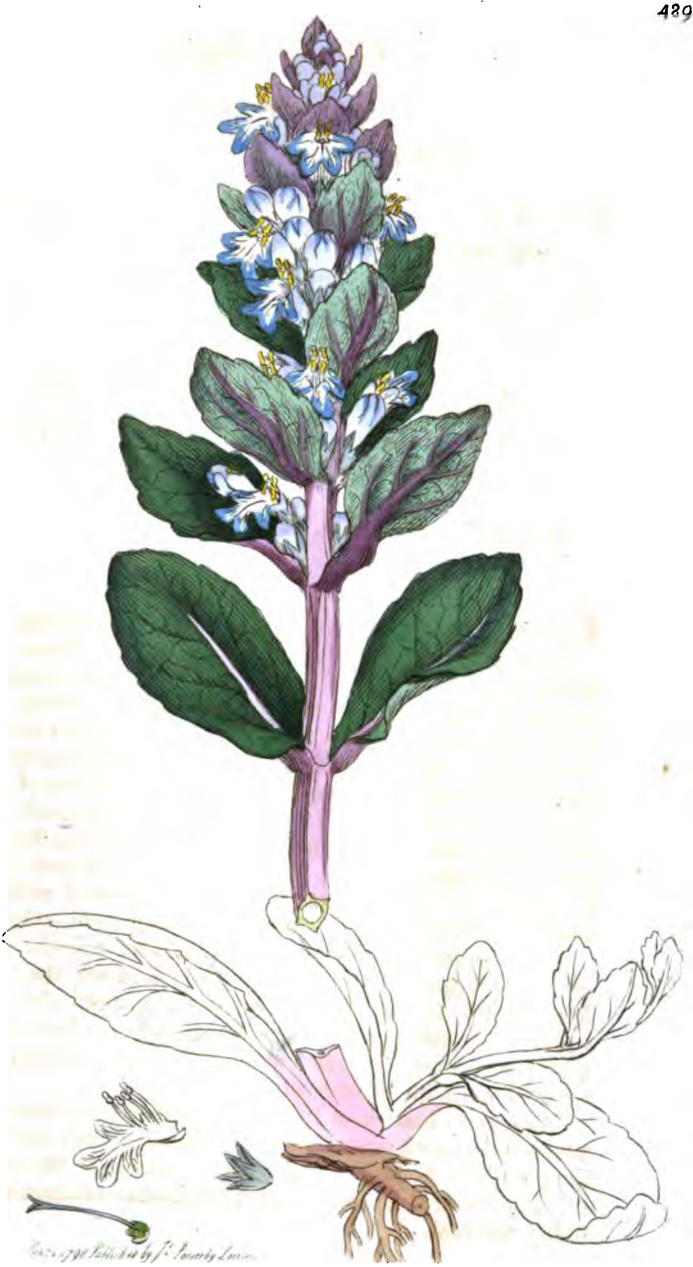
Bugula. *Raii Syn.* 245.

COMMON in woods and moist pastures, flowering in May. Root perennial, with many strong fibres. Stem always solitary, erect, about a foot high, square, leafy, simple, but throwing out several procumbent roundish leafy scyons, which spread in all directions to a considerable extent, and take root here and there at the insertion of their leaves. By these scyons the plant now before us is known from *A. alpina*, *t.* 477, and every other species. Leaves opposite, ovate, scolloped, tapering downwards into broad foot-stalks. Flowers in thick-set whorles, with purplish scolloped bracteæ. Calyx hairy. Corolla of a full blue, streaked with white, sometimes entirely white, and more rarely flesh-coloured.

Linnæus justly describes the herbage as smooth, for so it generally appears; but in high dry situations the accurate Mr. Gough (so much more accurate without the sense of sight than most persons are who possess it) has remarked that the common Bugle becomes somewhat hairy, with a rounder stem and shorter scyons.

This plant had once the reputation of a vulnerary, and was applied both outwardly and inwardly; but modern surgery neglects it, having learned by experience the inefficacy of vulneraries in general. It is somewhat astringent, especially the root.

489.



Jan. 1. 1798 Publish'd by J.s Sowerby Lond.

CHRYSOSPLENIUM oppositifolium.

Opposite-leaved Golden Saxifrage.

DECANDRIA *Digynia.*

Gen. Char. *Cal.* 4 or 5-cleft, coloured. *Cor.* none. *Capsule* with 2 beaks, 1 cell, and many seeds.

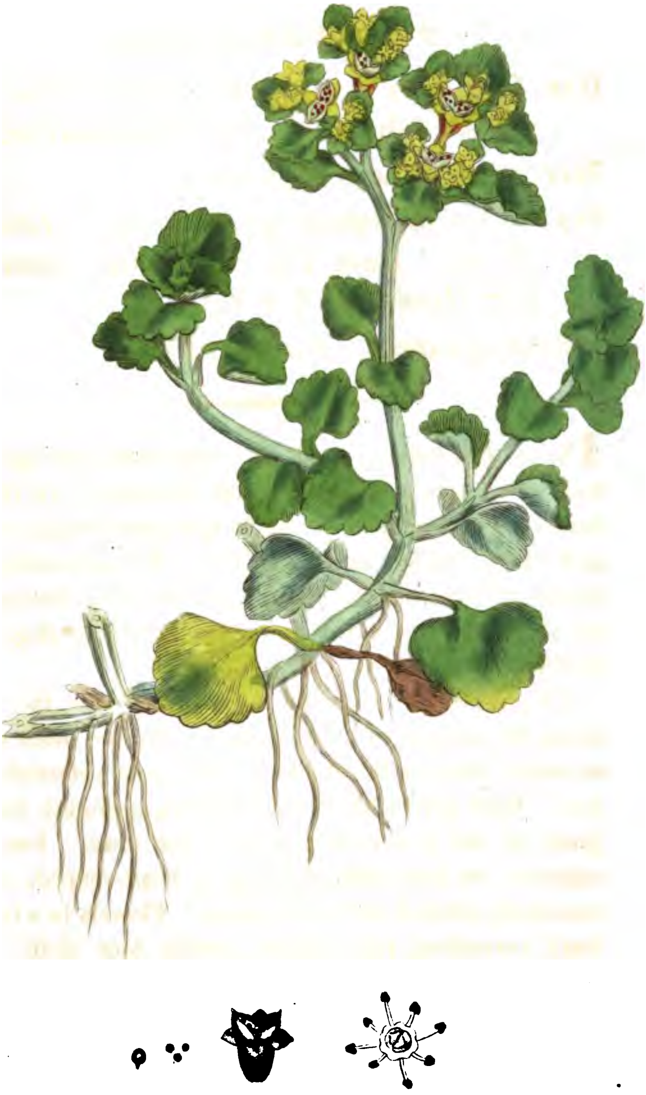
Spec. Char. Leaves opposite.

Syn. Chrysosplenium oppositifolium. *Linn. Sp. Pl.* 569. *Huds.* 178. *With.* 402. *Sibth.* 137. *Curt. Lond. fasc.* 2. *t.* 27.

Saxifraga aurea. *Raii Syn.* 158.

In our first volume, *t.* 54, the other more rare species of this pretty genus is figured and described. In that the leaves are alternate, herb and flowers more deeply coloured and more striking in appearance. Notwithstanding the doubts of Linnæus they seem unquestionably distinct, and the different situations of the leaves afford an elegant and decisive mark of distinction.

Chrysosplenium oppositifolium grows like the former about the margins of clear springs under the shade of trees or rocks, forming broad patches of a pale yellowish green hue. Root perennial, of simple fibres, springing from the joints of the procumbent part of the stem. Leaves all opposite, on foot-stalks, inclining to heart-shaped, crenate, succulent, clothed with a few hairs. Flowers in a terminal leafy corymbus, pale yellow, mostly four cleft. Their notched glandular ring, which surrounds the base of the germen is inserted between that part and the stamina, and is therefore (as Mr. Curtis remarks) probably a nectary, or at least it cannot be called a receptacle. The seeds are numerous, round and blackish.



CROCUS nudiflorus.

Naked-flowering Crocus.

TRIANDRIA Monogynia.

Gen. Char. *Cor.* in 6 divisions, regular. *Stigmas* convoluted.

Spec. Char. Sheath of one leaf, radical. Tube of the corolla very long, leafless. Stigma in three deeply laciniated segments, enclosed within the flower.

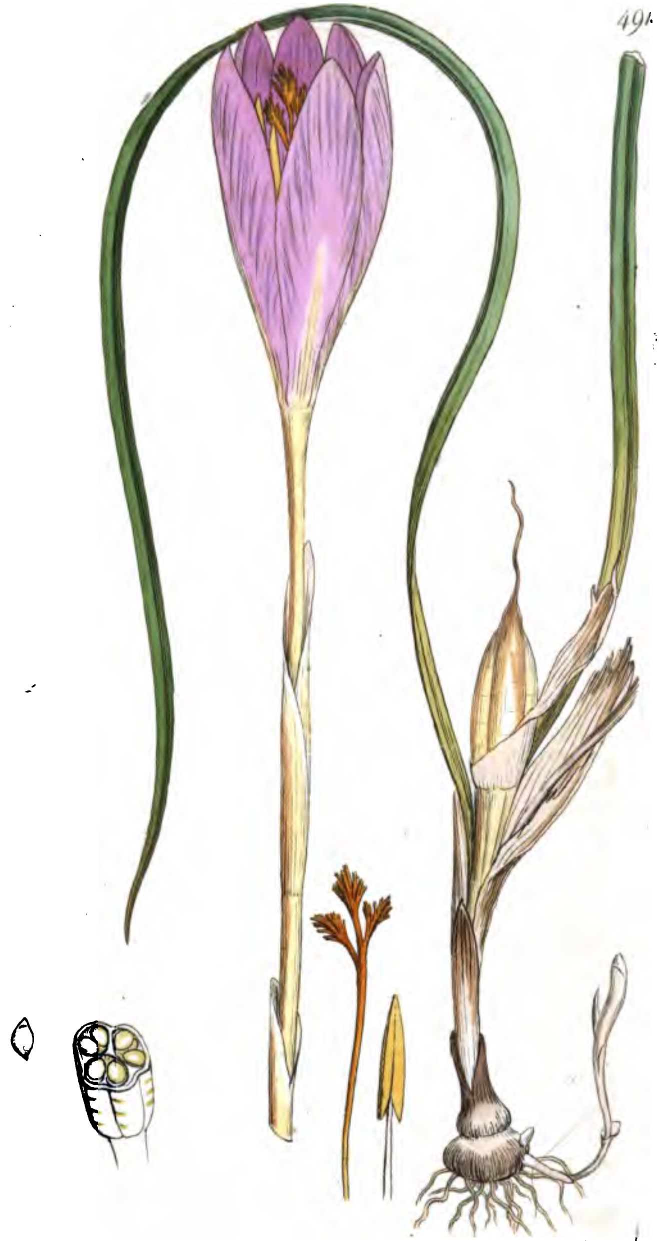
Syn. Crocus sylvestris autumnalis. *Dod. Pempt.* 214. *f.* 1.
C. montanus autumnalis. *Ger. em.* 154. *f.* 6.
Colchicum commune. *Deering Nottingh.* 57.

ANOTHER Crocus, in addition to those in our *t.* 343 and 344, is here offered to the British botanist. We are indebted to the Rev. Mr. Becher of Southwell, Nottinghamshire, for its detection and determination, and from his very accurate observations we have established the following particulars.

The *Crocus nudiflorus* grows, in the greatest profusion, between Nottingham castle and the river Trent, in meadows whose soil is naturally sandy, but from the annual overflowings of the river it is converted into nearly equal parts of sand and clay. There this plant enamels some acres of ground every autumn, and has been mistaken by strangers for a piece of water. From its place of growth, time of flowering, and the information of old inhabitants of the neighbourhood, there can be no doubt of its being what Deering mistook for the *Colchicum*, which does not grow thereabouts. The flowers, perfectly destitute of leaves, are in perfection early in October, and fade before the end of that month. The leaves do not begin to appear till some time in December, and are more erect than those of the other species, their margins scarcely revolute, colour paler, and their ends not decayed. The stigma is enclosed within the flower, as in *C. vernus*, but differs widely from that and the *autumnalis* in having its segments deeply subdivided into from 7 to 12, generally 9, narrow linear lobes. The seeds ripen in May. These characters and the time of flowering, are found constant in plants cultivated for many years.

The old authors were well acquainted with this plant, as appears by Dodonæus and his copier Gerarde above quoted. The Rev. Mr. Wood of Leeds has favoured us with specimens of the same from a field near Halifax, and mentions its having been found at Nottingham by Mrs. Sherbrooke, from whom we received the *vernus*. These two species grow there intermixed. The authority for the real saffron growing about Halifax, thus however falls to the ground. See our *t.* 343.

491



Sep.r 1 1798 Published by J.s Sowerby London

CARDAMINE hirsuta.

Hairy Ladies'-Smock.

TETRADYNAMIA Siliquosa.

Gen. Char. *Pod* bursting elastically, the valves turning back. *Stigma* entire. *Cal.* a little spreading. One *Gland* on each side, between the shorter stamina and the calyx.

Spec. Char. Leaves pinnated; leaflets roundish or oblong, notched, on footstalks. Stipulæ none.

Syn. Cardamine hirsuta. *Linn. Sp. Pl.* 915. *Huds.* 295. *With* 578. *Sibth.* 205. *Curt. Lond. fasc.* 4. *t.* 48. *Lightf.* 348.
C. flexuosa. *With.* 578.
C. parviflora. *Lightf.* 1104. *With. ed.* 2. 686.
C. impatiens altera hirsutior. *Raii Syn.* 300.

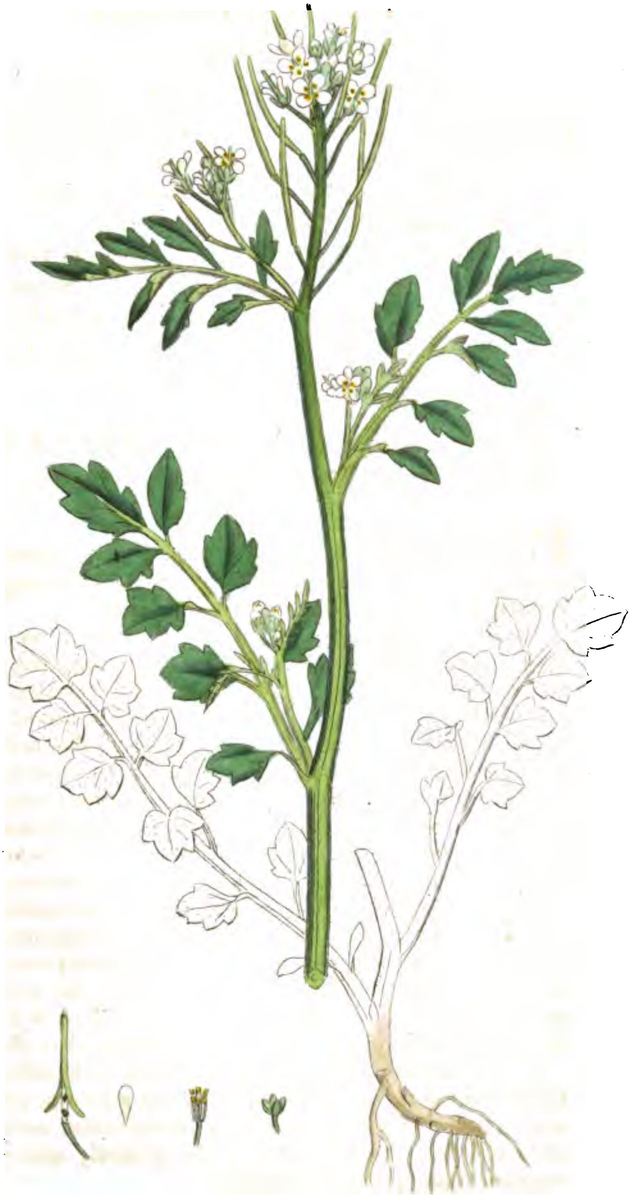
FREQUENT in moist shady places, gardens, and gravelly waste ground, flowering in the spring, and varying much in luxuriance, as well as in degree of hairiness.

Root annual, fibrous, white. Stem from 3 to 12 inches high, erect, more or less branched, leafy, angular, generally zigzag, clothed with scattered prominent hairs. Leaves pinnated, alternate; the leaflets of the lowermost round or heart-shaped, the rest oblong, all of them notched, more or less hairy, rarely quite smooth, standing on foot-stalks, opposite or alternate. Stipulæ wanting. Flowers small, white, numerous, in a terminal corymbus soon lengthened out into a spike. Stamina generally 6, but in early or starved flowers 2 of them are often wanting. Seeds numerous, small.

Some of our British botanists have been much in doubt about this plant. To us it is clear that all the synonyms above cited belong to only one species, nor do they even express a marked variety. Luxuriant specimens are most zigzag, starved ones most hairy. The *C. parviflora* of Linnæus is a very distinct species, not hitherto observed in Britain.

C. hirsuta is eatable in a young state as a sallad, having the flavour of the water cress, yet it has not come into general use. It is, in some gardens, a troublesome weed; for the radical leaves spread close to the ground, and effectually smother more delicate seedlings.

19



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GENTIANA verna.

Spring Gentian.

PENTANDRIA Digynia.

Gen. Char. *Cor.* of one petal. *Capsule* superior, one-celled, two-valved, with two longitudinal receptacles.

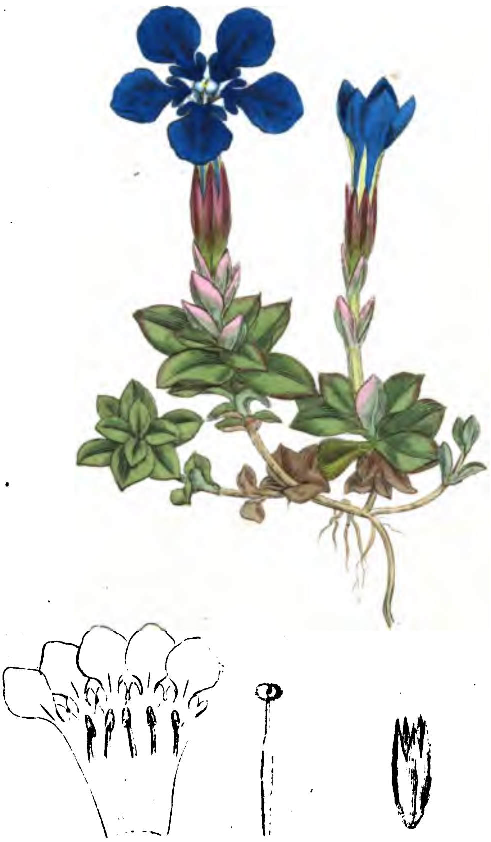
Spec. Char. Corolla five-cleft, salver-shaped, crenate; segments toothed at their base. Leaves clustered, ovate.

Syn. Gentiana verna. *Linn. Sp. Pl.* 331.
G. n. 644. *Hall. Hist. v.* 1. 286. Davall.
Gentianella alpina verna. *Ger. em.* 436. *f.* 2. *How. Phytolog.* 46. *Merr. Pin.* 45.

THIS very elegant plant was gathered, in April 1797, in Teesdale forest, Durham, by Mr. John Binks, and sent us by the Rev. Mr. Harriman, the first botanist who has ascertained it in England, though the inhabitants of the forest know it well by the name of Spring Violet, as it copiously enamels that country at a time when no other flower enlivens the dreary scene. Dr. How in his *Phytologia*, printed in 1650, mentions this Gentian as having been found abundantly in the mountains betwixt Gort and Galloway, Ireland, by Mr. Heaton; yet Ray has only reckoned it among the doubtful natives of these kingdoms. We have been favoured with fine recent specimens by the Hon. Mrs. Barrington. Mr. Oliver of Middleton has communicated a number of dried ones, which have been carefully compared with the Linnæan Herbarium, and prove this the real *G. verna*; though it is by no means clear that *G. Bavarica*, differing only in having a taller stem, and spatulate blunt leaves, is a distinct species, for some of Mr. Oliver's specimens have very blunt though still ovate leaves. Linnæus did not well understand the species of *Gentiana*, *Anemone*, and some others of Alpine growth.

The root of *G. verna* is perennial, thread-shaped, and creeping. Stems about an inch high, simple, single-flowered, thickly clothed with leaves which are more especially clustered in the lower part, and are of an ovate form, entire, generally pointed. Flower solitary, terminal, erect, large. Calyx with 5 waved carinated angles, and five equal sharp teeth. Corolla with a plaited cylindrical tube, twice as long as the calyx, and a flat limb in five equal obovate crenated lobes, of a most vivid blue, with a tooth on each side at their base. Stamina shorter than the tube. Germen cylindrical. Style really simple, with a flat, feathery, two-lobed stigma. The whole herb is smooth, less bitter than most Gentians. Sometimes the flowers are of a paler blue.

493



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SERAPIAS ensifolia.

Narrow-leaved Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Root fibrous. Leaves sword-shaped. Bracteæ much shorter than the germen. Flowers erect. Lip obtuse, half as long as the petals.

SYN. Serapias ensifolia. *Linn. Syst. Veg. ed.* 14. 815, (synonyms confused). *With.* 42. *Fl. Dan. t.* 506.

S. Xiphophyllum. *Linn. Suppl.* 404.

S. longifolia γ. *Huds.* 394.

Helleborine foliis prælongis angustis acutis. *Raii Syn.* 384.

FOUND on the top of Aberly hill, Worcestershire, and also in Wire forest in the same county, by Walter Michael Mosely, Esq. of Glashampton, to whom we are obliged for wild specimens of this rare plant, which completes our history of the British species of *Serapias;* see *t.* 269, 270, 271, and 437.

This has most affinity with the *grandiflora*, and has often been confounded with that. The root however seems to be not so properly creeping, but consists of a bundle of long fleshy fibres. Leaves long and sword-shaped, standing almost in two ranks; the uppermost nearly linear; the lowest very blunt, and even emarginate. Bracteæ extremely small (except the lowermost), scarcely a quarter so long as the germen, by which this species is essentially distinguished. Flowers white, upright. Germen slender, striated. Lip about half as long as the petals, obtuse, with white elevated ribs running longitudinally, and in the front a yellow crescent-like spot.

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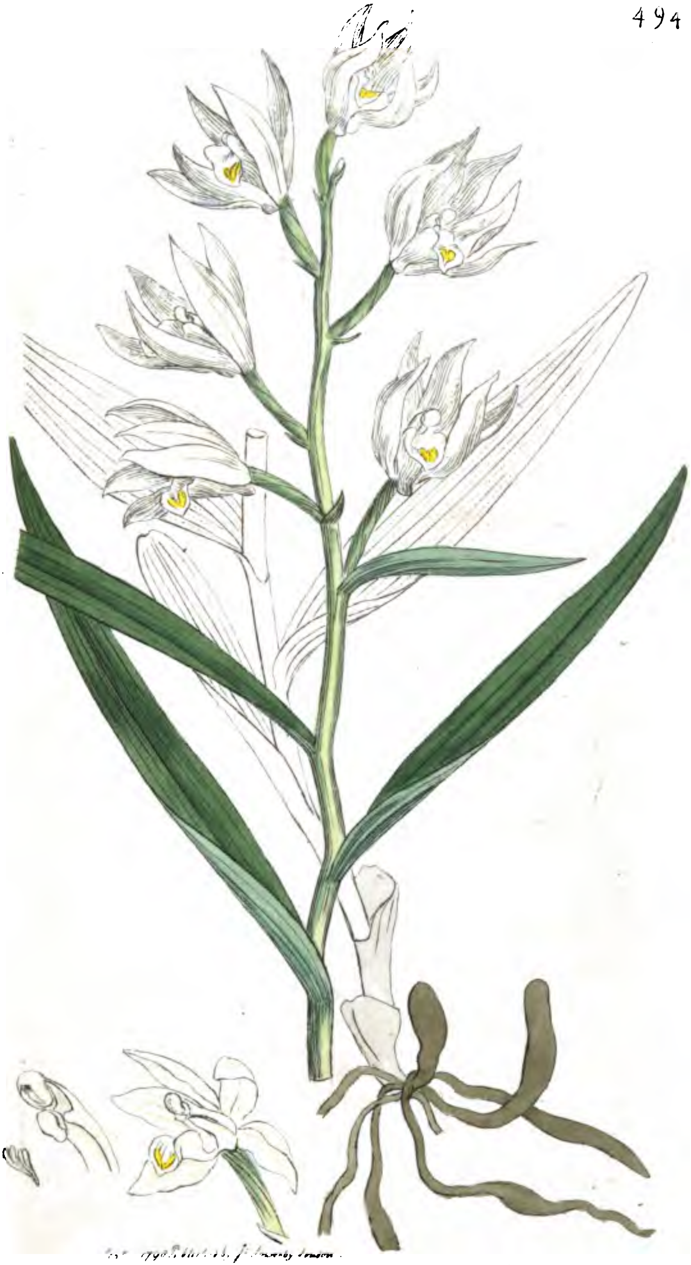


Pub. 1798 Oct. 1. by J. Sowerby London.

MENYANTHES trifoliata.

Common Buckbean.

PENTANDRIA Monogynia.

Gen. Char. *Corolla* hairy. *Stigma* cloven. *Capsule* of 1 cell.

Spec. Char. Leaves ternate.

Syn. Menyanthes trifoliata. *Linn. Sp. Pl.* 208. *Huds.* 85. *With.* 236. *Relh.* 82. *Sibth.* 73. *Curt. Lond. fasc.* 4. *t.* 17.

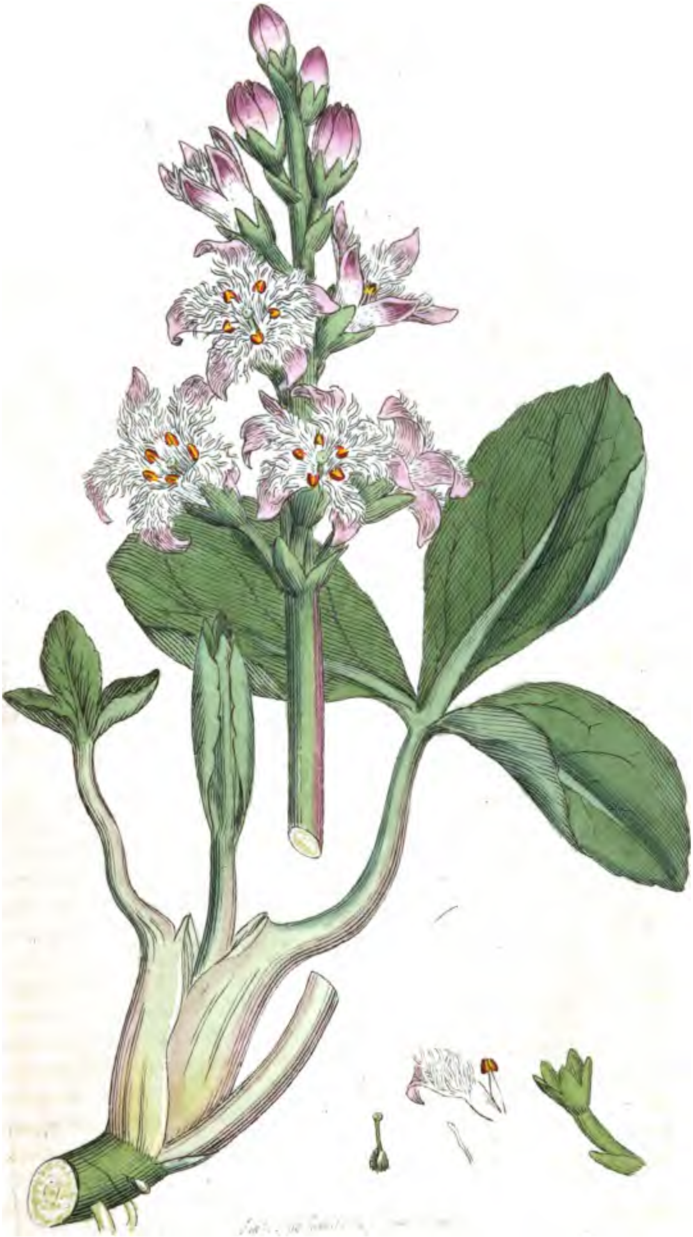
M. palustre triphyllum latifolium et angustifolium. *Raii Syn.* 285.

OUR aquatic plants are those which principally vie with the most favourite exotics in beauty, and this is one of the most elegant of them. It is very frequent in watery places, in a black boggy soil, and flowers in June or July.

Root perennial, long, round, throwing out many fibres deep into the mud. Stem spreading, clothed with the sheathing foot-stalks, each of which bears three obovate smooth bluntly-toothed or waved leaflets. Flower-stalk opposite to a leaf, but springing from within its sheath, longer than the leaves, erect, round, smooth, bearing a simple thyrsus of about 10 or 15 flowers, accompanied by small ovate entire bracteæ. Calyx with 5 blunt teeth. Corolla of one funnel-shaped petal, deeply divided into 5 lanceolate acute segments, which are white tipped with red, and clothed with long fleshy shaggy fibres on their upper side. This constitutes the proper character of the genus, though in some species the hairiness is confined to the edge, in others upon both parts, see *t.* 217. Antheræ sagittate. Germen round. Stigma cloven and notched.

This herb is very bitter. An infusion of it was long ago recommended for the rheumatism, and has been a popular medicine in England. It has also been given for the gout, scurvy, ague, catarrh, and dropsy, a formidable list of disorders: if it has any right to such celebrity, it must act as a powerful tonic.

495.



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ILEX Aquifolium.

Common Holly.

TETRANDRIA Tetragynia.

Gen. Char. *Calyx* with 4 or 5 teeth. *Corolla* wheel-shaped. *Styles* none. *Berry* with 4 seeds. Some male flowers, which are four-cleft.

Spec. Char. Leaves ovate, acute, spinous.

Syn. Ilex Aquifolium. *Linn. Sp. Pl.* 181. *Huds.* 446. *With.* 210. *Relh.* 382. *Sibth.* 64.

Agrifolium. *Raii Syn.* 466.

In woods, hedges and thickets not uncommon, flowering in May, the berries ripening in autumn, and lasting through the winter. There is a natural wood of holly half a mile from Norwich in the way to Thorpe, the ground of which is an entire mat of lily of the valley, mixed with hare-bells and wood rush.

The holly tree is of slow growth and long duration, its wood consequently hard, and close-grained; the bark smooth, grey, abounding in mucilage, and hence by maceration in water it makes bird-lime. Leaves alternate, on footstalks, elliptical, pointed, waved, rigid, evergreen, shining, their margins (except on very old branches) divided into spinous lobes. In some cultivated varieties the upper surface is prickly, and the leaves are very liable to be variegated with pale or deep yellow. Flowers white, in axillary clusters, either 4 or 5-cleft; the early ones generally imperfect, and intermixed with some that have no germen, and these are always 4-cleft. Stamina spreading, alternate with the lobes of the corolla. Stigmas sessile. Berry scarlet, rarely yellow, lasting long, and uninjured by our severest frost.

The branches of this tree laden with berries, and mixed with miseltoe and the spindle-tree, are used in many parts of England to ornament churches and houses at Christmas, and hence the holly is in Norfolk vulgarly called *Christmas*.

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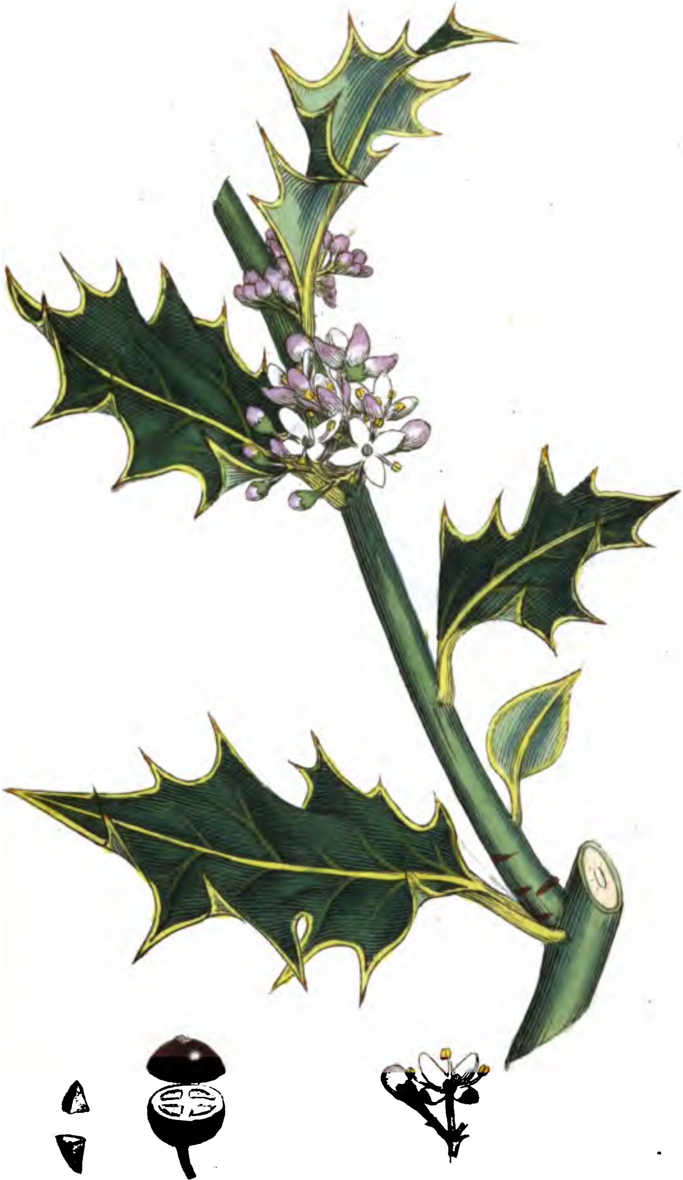

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LICHEN scrobiculatus.

Pitted Lichen.

CRYPTOGAMIA Algæ.

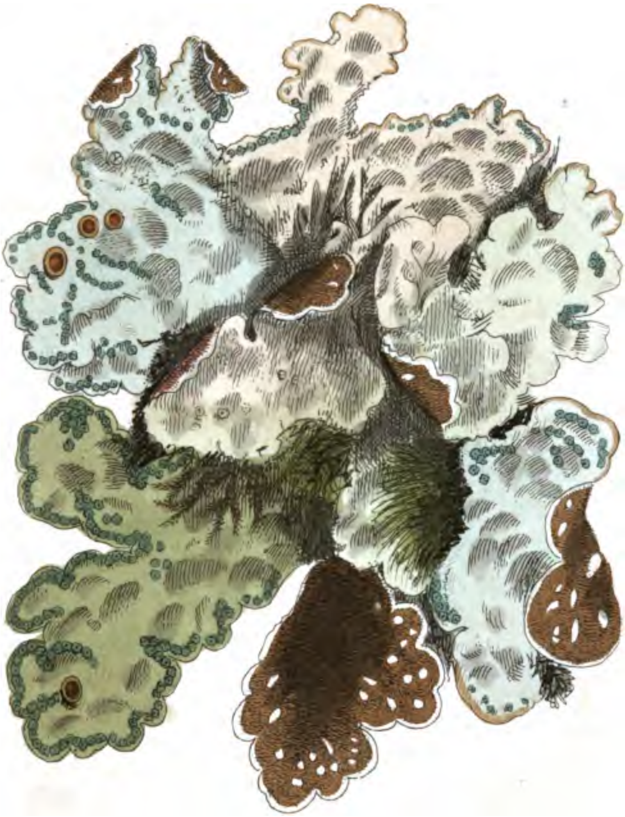
Gen. Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Leafy, creeping, roundly lobed, crenate, pitted; glaucous above, with mealy warts; brown and downy beneath, with white bald spots. Shields small, scattered, tawny.

Syn. Lichen scrobiculatus. *Scop. Carn. n.* 1391. *Lightf.* 850. *With. v.* 4. 59.
L. verrucosus. *Huds.* 545. *Sibth.* 331. *Jacq. Coll. v.* 4. 278. *t.* 18. *f.* 2.
Lichenoides pulmoneum villosum, superficie scrobiculata et peltata. *Dill. Musc.* 216. *t.* 29. *f.* 114.
L. arboreum foliosum cinereum et sinuatum, infernē scabrum. *Raii Syn.* 75.
Pulmonaria verrucosa. *Hoffm. Pl. Lich. t.* 1. *f.* 1.

FOUND on the trunks of trees, sometimes on mossy dry rocks, in the mountainous parts of England, Scotland and Wales, but not frequently. The fronds spread loosely over each other, and are rather leafy than coriaceous, cut into round lobes and obtusely notched. Their upper side is glaucous, full of irregular pits, smooth towards the base or centre, but towards the margin they are sprinkled with grey mealy warts. The under side is downy, brown, paler towards the edge, and spotted all over with irregular bare white spots. The shields are so rare that Dillenius never saw them, but copied them from Micheli, in whose figure, *t.* 49. they are drawn without any margin. After the examination of many hundred specimens we have found two in fructification. In these the shields are about the size of mustard seed, of a tawny brown, flat, with an elevated, inflexed, downy (not mealy) margin, of the colour of the frond.

We know not why Mr. Hudson chose to change Scopoli's expressive name for this Lichen: we restore it with the more satisfaction, as there is another *L. verrucosus* in Weber.



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LICHEN croceus.

Saffron-coloured Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Coriaceous, creeping, roundish, flat; beneath veiny, downy and saffron-coloured. Shields scattered, flat, closely attached to the frond.

Syn. Lichen croceus. *Linn. Sp. Pl.* 1616. *Huds.* 548. *With. v.* 4. 68. *Jacq. Coll. v.* 4. 255. *t.* 11. *f.* 2, 3.
Lichenoides subtūs croceum, peltis appressis. *Dill. Musc.* 221. *t.* 30. *f.* 120.
Peltigera crocea. *Hoffm. Pl. Lich. t.* 41. *f.* 2-4. *t.* 42. *f.* 4, 5.

ONE of the most beautiful, as well as the most rare, of our alpine Lichens, for fresh specimens of which we are indebted to Mr. Don of Forfar, and Mr. Mackay of Edinburgh; and these are the more acceptable, as Dillenius and Hoffmann knew the plant in a bad dried state only, the latter having condescended to copy the, not very excellent, drawing by Wulfen in Jacquin's *Collectanea*, for want of better materials.

This species grows flat on the ground, particularly in sandy barren spots on alpine heaths. It forms circular patches of leathery fronds, a little imbricated, obtusely lobed. Their upper surface is granulated, of a fine green, turning brown when dry; the under side is of a most vivid saffron or orange colour, which retains its beauty a long time, and is marked with many prominent veins, throwing out roots. Shields scattered, plentiful, flat, and closely attached to the frond, with whose external cuticle they are at first covered; they are roundish, smooth, chesnut-coloured.

L. saccatus, figured in *t.* 288, has most affinity with this, but they are sufficiently distinct.

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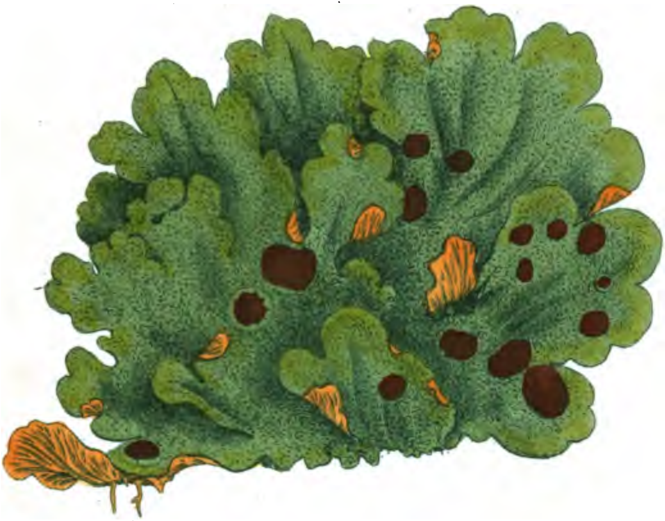
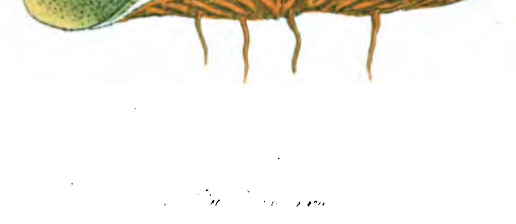




ORNITHOGALUM pyrenaicum.

Spiked Star of Bethlehem.

HEXANDRIA Monogynia.

Gen. Char. *Cor.* of 6 petals, erect, permanent, from about the midway spreading. *Filaments* alternately broader at the base.

Spec. Char. Spike very long. Filaments all dilated. Flower-stalks equal, spreading, growing erect as the fruit ripens.

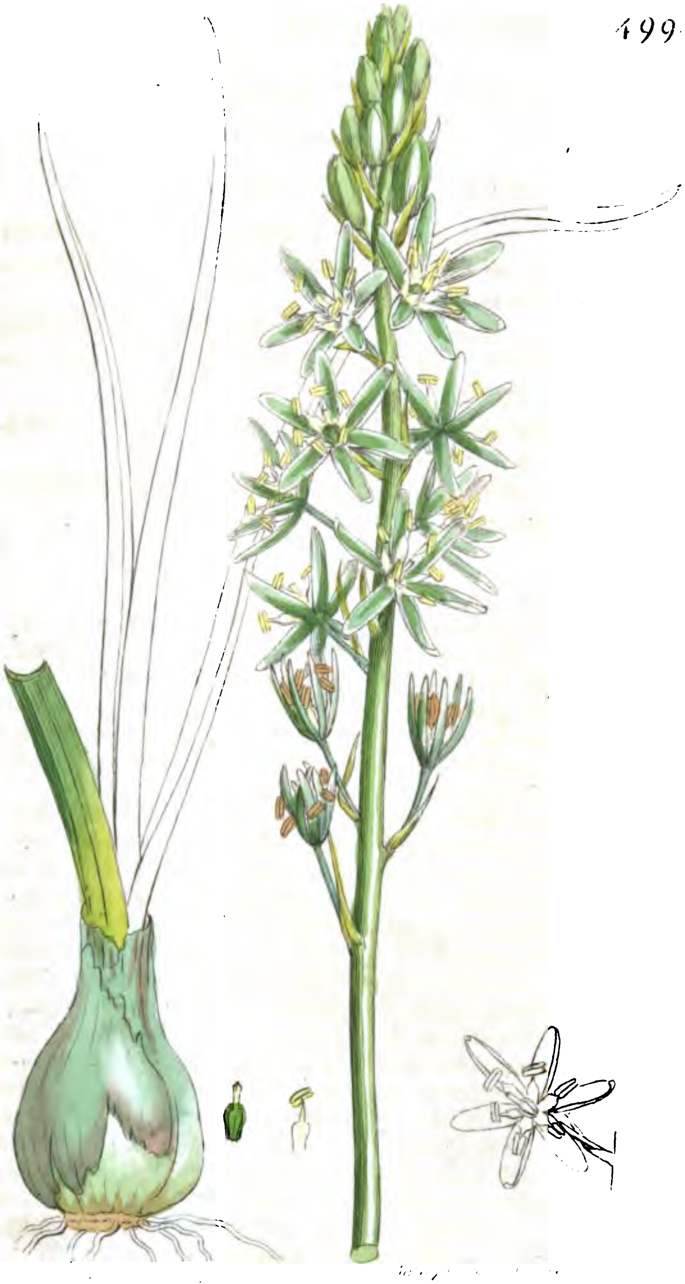
Syn. Ornithogalum pyrenaicum. *Linn. Sp. Pl.* 440. *Huds.* 143. *With.* 337.

O. angustifolium majus, floribus ex albo virescentibus. *Raii Syn.* 372.

In pastures in the southern or midland counties, but not frequent. This specimen was sent by the Rev. Thomas Orlebar Marsh, F.L.S. from Keyson Park wood, Bedfordshire, who also mentions this plant's growing copiously at Eaton Socon in the same county. Hitherto it has been met with in Sussex and Somersetshire only. The flowers begin to open in June, and continue through July.

Root an ovate bulb. Leaves long, linear, roundly channelled, their tips soon withering. Stalk two feet or more in height, erect, round, smooth, simple, terminated by an upright simple spike of numerous greenish unornamental flowers, standing on alternate spreading flower-stalks, each of which is accompanied at its base by a lanceolate pointed bractea, about its own length. After flowering these stalks become more erect, and finally pressed close to the main stalk; the whole spike is also by degrees greatly lengthened out, and becomes a *racemus*, for nature has not very distinctly drawn a line between the *racemus* and the *spica*. The petals are of a narrow elliptical figure, permanent, contracting much in breadth, and turning greener, as they dry. Stamina in our specimens, as well as the Linnæan ones, all nearly of a breadth, lanceolate, suddenly contracting about their middle into a setaceous form. Germen obovate, furrowed. Style straight, short, with a blunt small three-cleft stigma.

499



SAXIFRAGA granulata.

White Saxifrage.

DECANDRIA *Digynia.*

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Caps.* with two beaks, one cell, and many *seeds.*

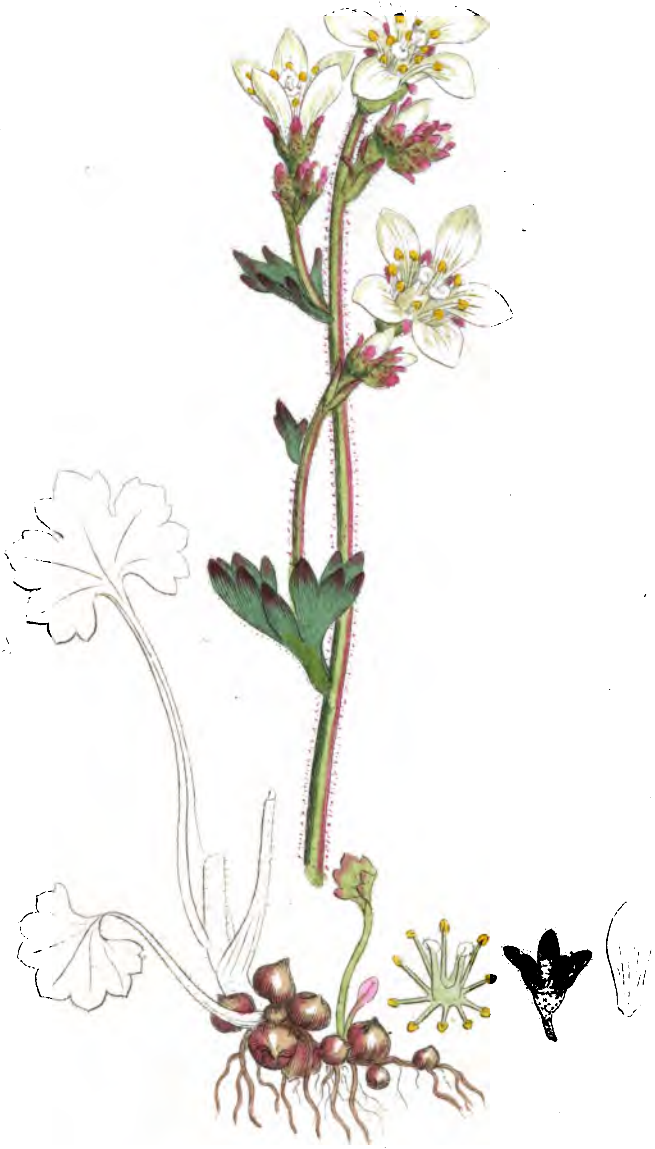
SPEC. CHAR. Stem-leaves kidney-shaped, lobed. Stem branched. Root granulated.

SYN. Saxifraga-granulata. *Linn. Sp. Pl.* 576. *Huds.* 182. *With.* 405. *Relh.* 166. *Sibth.* 137. *Curt. Lond. fasc.* 1. *t.* 30. *Dicks. H. Sicc. fasc.* 5. 5.
S. rotundifolia alba. *Raii Syn.* 354.

THIS pretty Saxifrage, rendered conspicuous by its brilliant white blossoms in the month of May, grows in dry pastures and on banks, where the soil is gravelly, but not very frequently, though where it does occur it is always in plenty. About Norwich it is far from rare; near London it is less common.

Root perennial, of several little grains or knobs, attached to one main fibre, and throwing out small fibres from their base. Stem solitary, erect, branched and panicled above, leafy, round, clothed with viscid hairs, and of a brown or reddish hue, with which colour the leaves and calyx-teeth are also tinged, giving the whole herb a rich and glowing appearance: these parts are also clothed with the same kind of hairs, especially the calyx, which is very clammy to the touch. The leaves are palmate and notched, somewhat fleshy, the radical ones on long footstalks. Petals obovate, much longer than the calyx, marked with three branched veins. Stamina all nearly equal. Germen inferior. Stigmas blunt and downy.—It is frequently cultivated with double flowers.

This plant has been recommended in the stone and gravel, because its granulated roots resemble small pebbles; but not being within the reach of every bungling apothecary or village doctress, its place has beeen capriciously supplied by the *Pimpinella*, *t.* 407, with which it has scarcely any character or property in common.



SAXIFRAGA tridactylites.

Rue-leaved Saxifrage.

DECANDRIA Digynia.

GEN. CHAR. *Cal.* five-cleft. *Petals* five. *Caps.* with two beaks, one cell, and many *seeds.*

SPEC. CHAR. Stem-leaves wedge-shaped, three- or five-cleft, alternate; the uppermost undivided. Stem erect, panicled.

SYN. Saxifraga tridactylites. *Linn. Sp. Pl.* 578. *Huds.* 182. *With.* 406. *Relh.* 166. *Sibth.* 138. *Curt. Lond. fasc.* 2. *t.* 406. *Dicks. H. Sicc. fasc.* 8. 10. *Lightf.* 224.

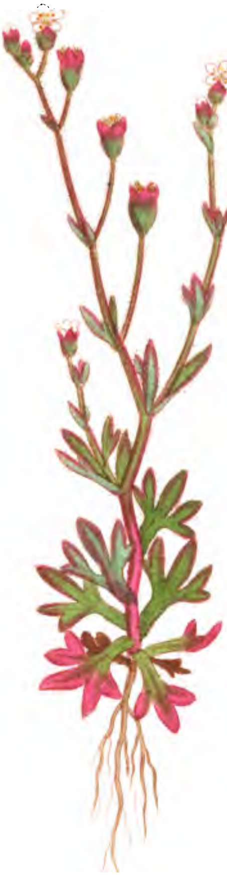
S. verna annua humilior. *Raii Syn.* 354.

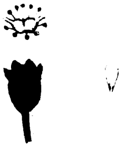
COMMON in most parts of England on walls, thatched roofs, and dry barren places, but rare in Scotland; it succeeds the *Draba verna* in the same situations, flowering in May, after which it becomes sunburnt, of a blood red or mahogany colour, soon sheds its seed, and withers away. When it happens to grow in shady places, it is greener, more slender, and longer lived.

Root annual, small, and entirely fibrous. Stem various in height and luxuriance, erect, round, leafy, a little zigzag, much branched above in a panicled manner. The whole herb is clothed with projecting viscid hairs. Leaves palmate in three segments, or pedate in five, tapering down into a wedge-shaped base, their margin entire, their substance tumid and fleshy; the uppermost of all are lanceolate and undivided. Flowers small, white, on upright solitary flower-stalks. Calyx urn-shaped, with small teeth. Petals obovate, scarcely exceeding the calyx. Styles greatly divaricated.

Some have taken this for the *Paronychia* of Dioscorides; but if the point were worth the pains of an examination, there are many plants that agree better with his short and lame account. His *Paronychia* was used to cure whitlows. Hence this saxifrage has been called whitlow-grass, a name more commonly given to *Draba verna.*

501.





ANTIRRHINUM Cymbalaria.

Ivy-leaved Snapdragon.

DIDYNAMIA Angiospermia.

Gen. Char. *Cal.* five-leaved. *Cor.* with a prominence at its base, pointing downwards and bearing honey. *Caps.* two-celled.

Spec. Char. Leaves heart-shaped, five-lobed, alternate, smooth. Stems procumbent.

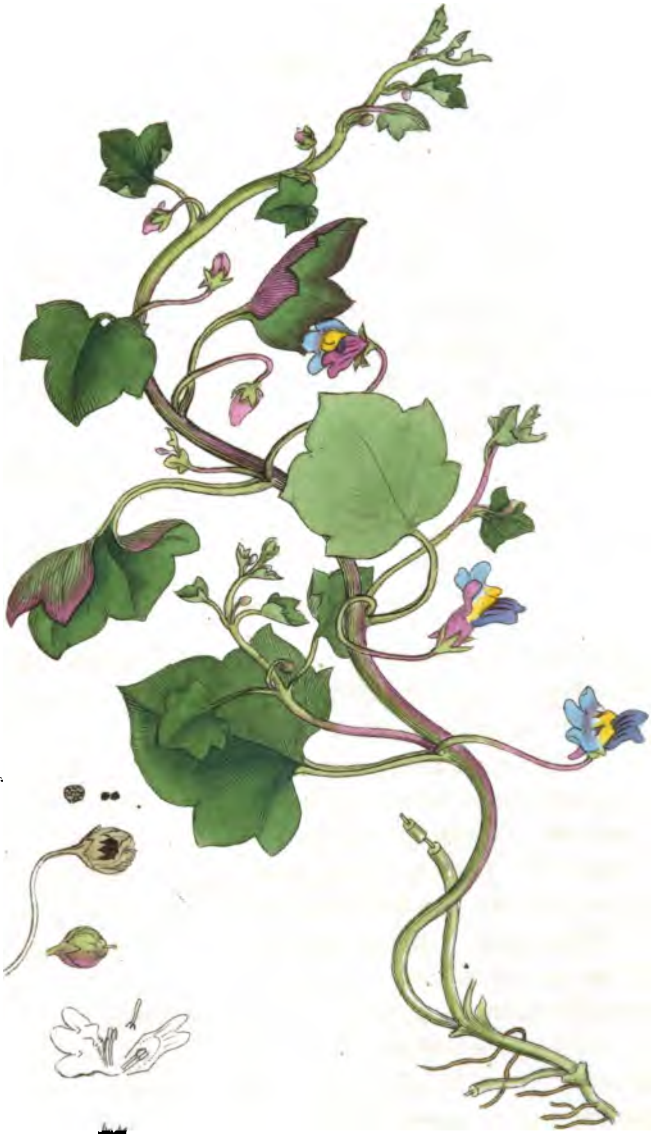
Syn. Antirrhinum Cymbalaria. *Linn. Sp. Pl.* 851. *Huds.* 271. *With.* 549. *Relh.* 242. *Sibth.* 194. *Curt. Lond. fasc.* 1. *t.* 45.

Linaria hederaceo folio glabro, seu Cymbalaria. *Raii Syn.** 282.

Cymbalaria italica. *Ger. em.* 529. fig. reversed.

Although originally introduced into gardens from Italy, this elegant little plant has long been perfectly naturalized with us upon old walls about the shores of the Thames, as well as at Oxford, Cambridge, and in short wherever there are any long established botanic gardens; for no weed in the world takes more absolute possession, when once it is well rooted. It is perennial, forming a thick pendent tapestry, either in sunshine or shade, and flowering from May to the end of autumn.

The stems are trailing, very much branched, round, leafy. Every part of the herb is smooth, and often purplish. Leaves generally alternate, on longish curved foot-stalks, heart-shaped, five-lobed, of a darkish green, and not unaptly compared to those of ivy. Stipulæ none. Flowers solitary, on simple axillary stalks, purple with a yellow downy palate, and a short pale spur. The capsule bursts at the top in a lacerated manner, and contains several blackish seeds very much wrinkled.



MARCHANTIA hemisphærica.

Hemisphærical Marchantia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male. *Calyx* salver-shaped, with numerous *antheræ* imbedded in its disk.

Female. *Cal.* peltate, flowering beneath. *Capsules* bursting at their summit. *Seeds* attached to elastic fibres.

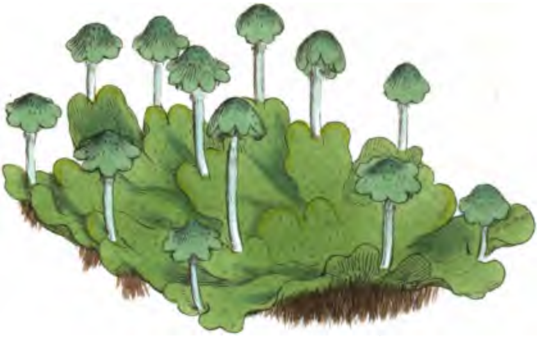
SPEC. CHAR. Calyx of the female flowers hemisphærical, cloven into about five oval segments. Stalks naked at the base.

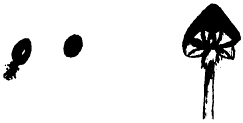
SYN. Marchantia hemisphærica. *Linn. Sp. Pl.* 1604. *Huds.* 520. *With.* 885. *Lightf.* 796.

Lichen pileatus parvus, foliis crenatis. *Raii Syn.* 114. *Dill. Musc.* 519. *t.* 75. *f.* 2.

ON the banks of rivers and ditches, about crevices of rocks, in damp but not always shady places, mostly in the mountainous or northern counties, though our specimens were sent (with the following kind) from Norfolk by the Rev. Mr. R. B. Francis, F. L. S. of Holt, a gentleman from whose very accurate examinations of the neighbouring genus *Jungermannia* great information is to be expected.—It is perennial, producing its fructification in March.

Fronds lobed, spreading, and creeping by means of numerous slender fibres originating from the prominent mid-rib; their upper surface is granulated, of a fine green, often purple when exposed to much sun, especially about the margin, and the under side is generally of a dark purple hue. Female fructification in green hemisphærical heads, cut into about five oval segments in the margin, and standing on short stalks, which are totally destitute of any bracteæ or membranes at their base. The seeds are black, and are produced in black capsules with fibres from the under side of the head or calyx. The male flowers we have not seen, nor have we found them described. Micheli figures what appear to be cups of young buds like those in the more common *Marchantia*. See our *t.* 210.





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MARCHANTIA conica.
Conical Marchantia.

CRYPTOGAMIA Algæ.

Gen. Char. Male. *Calyx* salver-shaped, with numerous *antheræ* imbedded in its disk.

Female. *Cal.* peltate, flowering beneath. *Capsules* bursting at their summit. *Seeds* attached to elastic fibres.

Spec. Char. Calyx of the female flowers ovate, pointed, with five marginal notches. Male flowers in sessile warts.

Syn. Marchantia conica. *Linn. Sp. Pl.* 1604. *Huds.* 521. *With.* 885. *Relh.* 421. *Sibth.* 314.

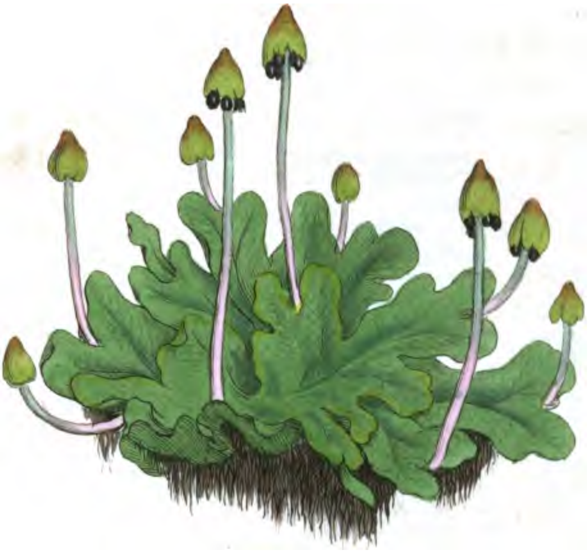
Lichen petræus pileatus. *Raii Syn.* 114.

L. vulgaris major, pileatus et verrucosus. *Dill. Musc.* 516. *t.* 75. *f.* 1.

Much more common than the last, growing in damp shady places, but the female fructification is rarely met with. The seeds are perfected in March or April, and the plant is perennial.

The fronds creep as in the other species, and are of a darkish pellucid green, reticulated, bluntly lobed. Stalks from a cleft between the lobes, long, slender, of a delicate texture, so that with the tender conical head they look like small Agarics. The head has five notches, and as many cells, each containing one black capsule. The male flowers, as Hedwig with great probability believes them, are borne on separate plants in the form of sessile warts towards the margin of the frond.

This species is highly aromatic, and combines with some *Jungermanniæ* to give that fragrant odour to the air which is perceived in grassy walks under trees, near fountains, or among damp shady rocks, especially after rain.



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